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POCKET GOPHERS.

Underground Vermin Which Do Immense Damage

BY VERNON BAILEY. [Condensed from Bulletin No. 8, United States Department of Agriculture.]

INTRODUCTION. The name "Gopher" is applied to these animals throughout the greater part of the region they inhabit, though in the Southern States they are commonly called "salamanders." Since the real salamanders are lizard-like ani-mals, once believed to live in fire, it Goode, that the name was given to the goequirrels as well as the pocket gophers, easily controlled.

tione They remain in his fields working havoc among crops, killing his choicest trees, eating the roots from garden vegetables, and destroying meadows and fields of grain. They breed and multiply beneath his very feet, and work as silently and unobservedly as the frost, while the result of their work is shown above their tunnels by lines of wither-

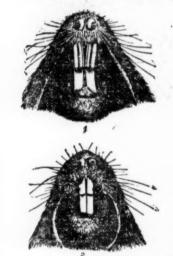
for any concerted action. The bounty always proved a failure and a waste of phers from the sudden appearance of their the funds of the County or State, as fresh mounds on ground recently black-shown beyond. There is little difficulty ened by fire. In the Mississippi Valley in destroying the gophers on a farm,



GEORGIA GOTHER, GEOMYS TUZA (Ord.)

while in the South a burrowing turtle (Gopherus polyphemus) is called by the same name. From the gophers' habit of living underground they are sometimes confounded with the moles. A greater mistake could not be made, for the moles belong to the widely different order of insectivores, and are among the most beneficial of mammals.

The Pocket Gophers are sturdy little animals, well adapted to underground life. Their bodies are stout and compact, their eyes are small, almost rudimentary, and their front feet are armed with strong curved claws for digging. The appearance of a characteristic species is shown in the illustration. Gophlay no claim to beauty, either in graceful form or pleasing contrast of colors; but their coats of plain, earthy browns harmonize perfectly with the



s.

-Face of Thomomys talpoides, showing apper incisors and openings of check

color of the soil. What seems like fur front teeth as a is in reality soft, silky hair, with a pick to loosen the smoothness and gloss that repels the dirt ground. At the and keeps the animal bright and clean same time the fore though in constant contact with the soil. feet are kept in Such beauty as they have lies in their active operation, perfect adaptation to a peculiar mode of both in digging

Pocket gophers belong among the ro- earth back under dents or gnawers. In general they the body, and the may be recognized by their peculiar hind feet are used form, already described, and by the pres- in moving it still ence of cheek pouches opening outside of the mouth. The only other mammals having external cheek pouches are the pocket mice and kangaroo rats, which differ from the gophers in slender, graceful forms, long tails and long hind legs. The gophers may be subdivided into two groups, those with grooved front teeth, and those with smooth front teeth.

(See Figs. 1 and 2.) The harmfulness of these animals is That animals living below the surface of the soil, rarely seen and to most people unknown, can be the cause of enough mischief to bring such a price the tunnels. upon their heads may surprise many people. A careless observer might travel for weeks over the Western prairies and not be aware of their presence, and yet the buffalo and antelope

ing and dying plants.

There is another side to the question,

and the gophers should be given full credit for the important part they have played in mixing and enriching soils. Still, the verdict must go against them.

We must protect our crops.

There is no demand for legislation or seems probable, as suggested by Dr. system has been repeatedly tried and has the name gopher is used for the ground and once reduced their numbers may be

GENERAL HABITS.

Underground life.-Even where gophers are so numerous as to be exceedingly troublesome, few people are familiar with them in life; they keep so close to their underground tunnels as to through which to discharge the earth be rarely observed unless caught in that makes the little piles called "gophe traps. By patient watching a little brown head may sometimes be seen for an instant while the animal pushes a of the runway is visible except the little load of earth from a freshly-opened mounds that mark its course. An hole; but on rare occasions the whole average-sized gopher hill contains five animal appears above ground, but disappears again so quickly that the eye hardly catches its form. Still more are generally circular and a foot or rarely one may be met with following a more in diameter. The quantity of dirt road or path remote from its hole.

under ground, their whole organization tance between the hills. In mellow is modified in accordance with the needs | soil both holes and hills are larger than of a subterranean existence. The dif- in hard soil. I once counted the hills ferent kinds, though numerous, are very thrown out by three gophers (Geomys much alike externally. They are shortlegged, thick-set animals, without an ap- numbers were, respectively, 28, 35, and preciable neck, without noticeable external ears, and with very small eyes. The and to some extent through the Winter, feet are largely developed for digging. the total quantity of earth brought to The forepaws in particular are very claws, and the sides of the toes are lined with rows of bristles that evidently serve in preventing the dirt from passing being a more effective arrangement for keeping the tunnels clean, and for pushing the earth out of the openings in the covered over with subsoil in one year by burrows. The tail, which is of moderate length, is thick, fleshy, and usually devoid of hair, and is endowed with tactile sensibility.

The pocket gophers, in working

their way through the earth in the construction of their tunnels, use the powerful upper and pressing the

in moving it still farther backward. Fig. 3.—Lettforefootof Geomys personatus, showing the rows of bristles which form brushes on quantity has ac-the sides of the toes. cumulated behind the animal he immediately turns in the burrow and by bringing the wrists together under the chin, with the palms of the hands held vertically, forces himself along by the hind feet, pushing the earth out in front. When an opening in the tunnel is reached the earth is discharged through perhaps best shown by the fact that it, forming a little hillock that resembles single Counties have paid for their de- in a general way the hills thrown up by struction in one year as much as \$14, moles. In many gophers there is a naked callosity or "nasal pad" over the anterior half of the nose, which must be

> The substance of the following notes on the habits of a live gopher in cap-

in their past abundance were not onetenth as numerous. Unlike larger ani- forward. This method of progression

continuous efforts toward their destruc- accustomed route. When carrying food to one of his storehouses he rarely turned around, but usually ran backward to the place of deposit, returning for more, and repeating the operation again and again, the to-and-fro movement suggesting a shuttle on its track.

In all pocket gophers the tail is rather large and fleshy, and as a rule is naked or scantily haired. Its function had long been a puzzle, but the gopher above mentioned used it as an organ of touch when running backward. The tail is doubtless endowed with special sensibility, and is evidently of great value in warning the animals of the presence of an enemy in the rear when they are traveling backward in their dark tun-

BURROWS.

Gopher burrows seem to have neither beginning nor end. They are extended and added to year after year, and in many cases those dug by a single animal would measure a mile or more if straightened out. I have never attempted to ascertain the actual length of one, but feel secure in making the above statement. At the end of a year a gopher may often be found within 20 rods of the point from which he started, but in traveling this distance he has paid no attention to the points of the compass He follows a tender root for a few feet, then moves to one side, encounters a stone, and makes a second turn. A layer of mellow soil entices him off in another direction, and so on through s thousand devious crooks and turns Sometimes the main passage swings around and crosses itself, or numerous side branches are extended varying dis tances. The main tunnel usually runs from six inches to a foot below the sur face. At intervals varying from a few feet to a few rods openings are made in each varies greatly with different As pocket gophers spend their lives kinds of soil and according to the dis-40. As the gophers work all Summer. the surface and the total area covered strong, are armed with long curved are considerable. For example, in the central part of Minnesota, where the ground is unfrozen for seven months in the year, the lowest number in the three tween the fingers (Fig. 3), thus complet- cases mentioned, 28 hills in 12 days, would result in 490 hills in seven months. or at least 500 square feet of ground one gopher.

MIXING THE SOIL

That gophers have done great good in preparing the land for cultivation cannot be denied. For unknown ages they have been steadily at work plowing the ground, covering deeper and deeper the vegetable matter, loosening the soil, draining the land, and slowly but surely cultivating and enriching it. On the prairies that are swept each year by fire, he only vegetation remaining to decay and fertilize the soil is that which the gopher hills cover and protect from the lames. On poor, sandy soil the scant vegetation would dry up, blow away, and only a small amount find its way into the soil, were not the gophers busy all Summer burying the fresh plants. Carefully scrape away a gopher hill that has been standing for six months, and a layer of decayed plants will be found under it. In a year or two new plants will spring up on the spot, and draw their nourishment from the elements of the fact that their sight is not keen. former growths, these again in time to Probably their vision is better at night, be buried and add their substance to the wealth of the soil. Hence it would be well to examine their habits carefully before condemning the gophers that occupy wild pastures and idle land. HIBERNATION.

Although gophers are supposed to hibernate, there is abundant evidence that they do not. While all hibernating animals become very fat in Autumn, as a preparation for their long Winter's of great assistance in the construction of fast, gophers never undergo such a change. Moreover, during snowy Winters when the ground is not frozen they continue their work under the snow. When the snow is light, hills may be thrown up under it in the ordinary way, but if it becomes too hard to be readily pushed aside, the animals excavate tun-

holes. They are sometimes 20 feet long. Throughout the northern part of the gopher country the ground usually remains frozen during most of the Winter. Then the gophers do not appear at the surface at all, but are probably extending their tunnels below the frost, where food is obtained from the deep running roots. To what extent they depend on the stores laid up in Fall is hard to tell. Part of the supply is sometimes used, but frequently the Spring plowing turns out an untouched and moldy store left from the preceding year. Of course, the supply of food encountered in extending their tunnels determines whether the stores shall be drawn upon.

The food consists chiefly of roots, tubers, and other rather hard vegetable substances, though grass and the succulent parts of plants are sometimes eaten. In agricultural districts the animals are highly injurious, destroying potatoes and are held in a horizontal position, the tips of

radiating from the closed ends of gopher sufficiently tame to eat freely from the hand and was commonly fed bits of potato, of which he was particularly fond. The manner of eating was peculiar and interesting, and showed an ability to use the huge forefeet showed an ability to use the huge loreleet and claws in a way previously unsuspected. After satisfying the immediate demands of hunger it was his practice to fill one or both cheek pouches. His motions were so swift that it was exceedingly difficult to follow them with sufficient exactness to see just how them with sufficient exactness to see just now the operation was performed. If a whole potato was given him, or a piece too large to go into the pouch, he invariably grasped it between the forepaws and proceeded to pry off a small piece with the long lower incisors. He would then raise himself slightly on his hind love and hold the feaveant between his He would then raise himself slightly on his hind legs and hold the fragment between his forepaws while eating, for he usually ate a certain quantity before putting any into the pouches. If small pieces were given him he took them promptly and passed them quickly into the pouches. Some pieces were thus disposed of at once; others were first trimmed by biting off projecting angles. As a rule one pouch was filled at a time, though not always, and the hand of the same side was used to much the food in. The usual course is as follows. push the food in. The usual course is as follows: A piece of potato, root, or other food is seized between the incisor teeth, and is immediately transferred to the forepaws, which

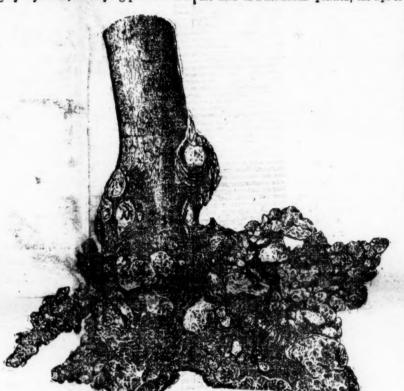


Fig. 5.-Root of apple-tree gnawed off by Pocket Gropher.

other tubers in large quantities, and the claws curving toward one another. If gnawing off the roets of fruit trees, the food requires reduction in size, the triming is done while held in this position. When a burrow strikes the roots of a tree it is carried around among them side of the face with a sort of wiping motion until one after another the smaller ones which forces it into the open month of the are cut off and eater and the bark stripped from the larger ones, so that the stripped from the larger ones, so that the hands are used, particularly if the piece is tree is almost invariably killed. If the tree is not large, every root is sometimes cut off, and the first breeze tips it over.

DRINK.

So far as known, pocket gophers do not drink. Like other rodents of arid regions, they obtain the necessary water from the plants on which they feed. Persons who have kept gophers in confinement-Dr. Goode, Dr. Merriam, Prof. Herrick, and Mr. J. B. Parvinhave never been able to make them

USE OF POUCHES.

Though their eyes are small and their range of vision limited, the gophers lose little thereby in the dark underground passages. Touch, taste, and smell take the place of sight as guides in selecting the roots with which they are constantly coming in contact while excavating their endless tunnels. They have broad, chisellike teeth for cutting these roots, and large, fur-lined pockets in their cheeks in which to carry their food. Under cover of overhanging vegetation they fill these pouches with green leaves and stems to carry back and eat at leisure in their holes. In half a minute enough food for a good meal may be collected and stowed away, while a much longer time would be required to eat the same where collected. This arrangement is especially important to the gophers from or at least during the twilight, for then

they are most active.

Chipmunks, squirrels, and ground-squirrels take food in their mouths, and with the tongue push it out between the teeth into an elastic pouch, just as boys put marbles in their cheeks. In the squirrels and chipmunks the cheekpouches communicate with the mouth. In the pocket gopher (also in all species of pocket mice and kangaroo rats) the pouches open from the outside along the front of the cheeks. They extend back under the skin to the shoulders, are lined with short hair, and are enveloped by muscles. The way in which gophers fill their cheek-pouches is thus described by Dr. Merriam in the technical paper

already referred to: tenth as numerous. Unlike larger animals, gophers do not disappear before man unless as the result of his direct and unless as the resu

large. In such cases the long claws of one hand are used to draw down the lower side of the opening, while the food is poked in with the other. It is obviously impossible for the animal to pass food from the mouth to the pouches without the aid of its foreclaws.

The most remarkable thing connected with the use of the pouches is the way they are emptied. The forefeet are brought back simultaneously along the sides of the head until they reach a point opposite the hinder end of the pouches; they are then pressed firmly against the head and carried rapidly forward. In this way the contents of the pouches are promptly dumped in front of the nimal. Sometimes several strokes are necessary. I am not prepared to say that the animal cannot empty the pouches by means of the delicate investing muscles, but I have never seen them emptied in any other way than that here described.

The pockets are often stuffed so full of ieces of roots, stems, and leaves as to distort the appearance of the animal's head. Roots and stems are cut in sections about an inch long, so as to fit the pockets nicely, and are packed in lengthwise. Leaves are folded or rolled to fill

the smallest space. Although it is commonly supposed that the pouches are used for carrying dirt out of the holes, the fact is they are never used for this purpose. In examining the pockets of more than a hundred specimens caught in traps I could find no evidence that any had been filled with earth. Occasionally specks of dirt from roots cling to the hairy inner surfaces; nothing more. If the pouches had been filled with earth the short hairs would inevitably retain some of it. Furthermore, gophers shot in the very act of pushing dirt from their holes had none in their pouches. The method of removing earth from the burrows, as observed in live gophers, has been already

described. The gophers are industrious workers. and whatever food is found and not needed at once is carried to chambers in some part of the tunnel and stored: Frequently a plow breaks into these storehouses and scatters their contents. Sometimes a peck of small potatoes, roots of coco grass, wild parsnip, wild sunflower, and other fleshy or bulbous roots are found in a single chamber.

Uranus is really a gigantic world nore than 60 times as large as ours. Its vast distance, now about 1,700,000,-000 miles from the earth, is what causes it to look so small.

BUDDING.

How to Do It.

Report of Washington State Board of Horti-

On growing trees in the orchard budding should be done during August or early September. It can also be done in May if the buds were selected the previous Winter and kept in a cool, moist place.

The process of changing a tree of inferior variety into one bearing fruit of so the root of the bud must be carefully superior value is simple, and should be undertaken without hesitation by any careful orchard-

ist who may possess such property. It is best if the trees are not over five years old, but budding can be successfully performed on older trees by selecting smooth places on the bark of limbs as low down as possible.

Budding consists in separating a bud with a portion of bark at-tached from a shoot of the current season's growth of one tree and inserting under the bark of another. When this bud begins

to grow, all that part of the stock above it is cut away, the bud grows on and eventually forms a tree of preserved, for if it comes out with the the same variety as that from which it wood the bud is useless. The root of was taken

NECESSARY CONDITIONS.

The buds must be perfectly developed in the axils of the leaves on the young shoots intended to bud from. This is seldom the case until the shoot has temporarily ceased to lengthen, as indicated by the perfect formation of its terminal bud. The maturity of buds may be hastened very much by pinching the tips of the shoots. In 10 or 12 days after the pinching of a very soft shoot

its buds are fit for working.

The bark must also raise freely from the stock to be budded. Trees that accomplish most of their growth early in the season must be watched and budded before they cease to grow; those that grow very late must not be budded early, or the formation of new wood may surround and cover the buds; in and the leaf stock uncovered (Fig. 2), 'drowned by the sap."

IMPLEMENTS NEEDED.

Any person who can whittle, or who has mechanical ingenuity enough about

him to use a good, sharp knife, can bud. A pruning knife and a budding knife are needed. The former to remove any branches that may be in the way of inserting the bud; the latter to take off the buds and make incisions in the stock. and this should have a very thin, smooth and keen edge. If the work to be done is only small in amount, the different blades of a good pocket knife may be

sharpened to serve the purpose. Strings for tying in the buds are generally either taken from bass mats or they are prepared from the bark of the basswood. For a limited number the fibrous, paper-like inner bark of willow. cedar or other forest trees can be made to answer the purpose, or if nothing else at hand even cotton string, though for any extensive work the basswood bark should be used.

PREPARING AND PRESERVING THE BUDS.

Young shoots from which buds are to be taken are cut below the lowest plump bud, but near the base where the buds are quite small they should not be taken. The leaves are then stripped off, leaving half of each leaf stock by which to handle the bud.

If a considerable quantity are cut at once they should be stripped of the



Fig. 6, a shoot of buds with leaves taken off, showing the position of a knife in removing a bud. Fig. 7, a bud badly taken off with a hollow in center. Fig. 8, a good bud; a, root of bud; b, root of leaf.

leaves and wrapped in a damp cloth as soon as cut, and they may be preserved in good order for 10 days by keeping them in a cool cellar among damp sawdust or closely enveloped in damp cloth matting.

HOW TO DO THE WORK.

Having the stocks, buds and implements in the condition described, the operation is performed by taking the shoot from which the bud is taken in one hand, and the budding knife in the other; the lower part of the edge of the knife is beets.

placed on the shoot half an inch above the bud to be removed (Fig. 6); the thumb of the knife hand rests on the When It Should be Done, and shoot below the bud B; a drawing cut is then made parallel with the shoot, removing the bud and the bark to which it is attached half an inch above and three-quarters below it. This is the usual length, but it may in many cases be shorter. The cut is made just deep enough to be below the bark. A small portion of the wood is always taken of with it, and if this adheres firmly it should be allowed to remain; if it parts freely it should be taken out, but in doing



the bud, as it is termed, is a small portion of wood in the hollow part of the inside of the bud. Fig. 8 is a good bud; A, root of bud; B, root of leaf. Fig. 7 is imperfect, the roots of leaf and bud both out. A smooth place on the stock clear of branches is then chosen, where two incisions are made to the depth of the bark, one across the end of the other so as to form a T (Fig. 6); the bark on the two edges of the perpendicular cut is raised (Fig. 7) with the smooth ivory handle of the budding knife or the part of the knife blade used, and the bud is inserted between them (Fig. 1); the upper end of bark attached to the bud is cut square to fit to the horizontal cut on the stock. The bass string is then wound around tightly, beginning at the bottom and covering every part of the incision, leaving the bud itself tal cut, and the work is done.

ESSENTIAL POINTS.

Smooth cuts and exact fit of the bud to the incision made are necessary; also make the tying secure and close, so as to exclude air and rain. The insertion of a bud should not in any case occupy more than a minute. Persons of practice will set from 120 to 200 buds per hour with help in tying. Better success is generally had with budding in dry weather than when damp, the sap being in a better condition to form a union between the stock and the bud. The chief difficulty experienced by beginners is the proper removal of the bud. When the knife passes exactly between the bark and wood the bud must be good; but there is generally more or less wood attached and the removal of this is a fine point. The cherries, peaches and applet are more easily budded on this account than the plum and pear, these having larger shoulders and are not so flat as the former. If there is a cavity between the bud and stock formed by taking away too much wood the bud will not grow. With a little practice success will

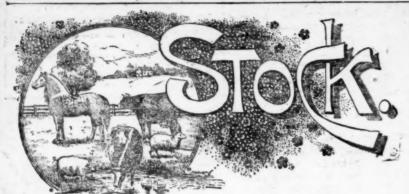
easily be attained. MIXED VARIETIES FOR POLLINATION. We find that several varieties of fruit trees which while they produce flowers with sufficient pollen are to some extent

Where there are large blocks of a single variety of trees it may be necessary to insert some other variety of the same species at certain intervals, and this can easily be accomplished by the process of budding.

Manure for Light Land.

Stable manure is good for all kinds of soils, but for a light or a very heavy soil a compost of manure and swamp muck is better than the manure itself. Of the artificial manures, the mixture of several in different proportions has been found most useful for light land; as, for instance, 200 pounds of superphosphate of lime, 100 pounds of potash salts, and 5C pounds of nitrate of soda may be used per acre. An application of 20 bushels of freshly-burned lime, air-slacked by exposing it in small heaps to the weather for two or three weeks, is always useful. The fresh lime is dropped on the field in heaps of one bushel, two rods apart each way, and when it has fallen to a fine, dry powder it is scattered as evenly as possible with a long-handled shovel, so as to whiten the ground evenly all over. This makes the 20 bushels per acre.

Idaho is going extensively into sugar



Chronic Diarrhea in a Horse.

soon after eating, imperfect mastication,

mildew in the fodder, and exposure to

High Character of the World's Fair Dairy Tests.

Anyone familiar with the great tests between the breeds held at Chicago from May 12 to Oct. 20, 1893, will bear testi-- mony to their thoroughness, their impartiality and the grand work that was accomplished in the interest of dairy science. These tests gave to the cows and breeds participating therein an opportunity to demonstrate their dairy characteristics. They were not tests of a few days or a week, but so prolonged that they exhibited to public scrutiny the staying qualities of the cows and breeds. This feature cannot be too strongly commended, as the practical dairyman is not keeping cows for what they can accomplish in a week, on a forced diet, but rather what they are capable of doing throughout the whole year, under rational feeding, and what the "net profit" is which they will place to the credit of his bank account. The latter element was essentially the crucial one of the tests, as all the decisions were based on the cows and breeds "showing the greatest net profit." The cows and breeds were credited with their products and debited with their feed. The former consisted in test No. 1, of cheese, the price of which was fixed according to the scoring of same (which was done by experts appointed by Chief Buchanan), of whey, at the rate of eight cents per 100 pounds, and of the increase in live weight, at four and a half cents per pound; in test No. 2, of the butter, at a price fixed by the scoring of same by the same experts as in the cheese test, of solids other than butter fat, at \$2 per 100 pounds, and of increase in live weight; in test No. 3, of butter alone, a strict account was kept of all the feed, which was charged at a schedule price fixed by Chief Buchanan, with the consent of the representatives of the breeds prior to the tests beginning, and could only be fed in the presence of a repre-sentative of the Testing Committee. Columbian guards were stationed in the barns day and night, to see that no feed was given to the cows except in the presence of the representatives of the Test-

ing Committee. It will thus be seen that every feature of dairying formed a factor in these tests: Quantity of milk in test No. 1, through the whey and cheese, quantity of milk in test No. 2, through the solids other than butter fat, and butter in tests Nos. 2 and 3.

A sample of the milk of each cow and the mixed milk of the herds was taken daily, and analyzed by a competent staff of chemists, under the direct control of Prof. E. H. Farrington, of Illinois; and a determination of the fat in the milk was made by the Babcock oil test each day, and each cow credited with her proper proportion of the products.

The milk was creamed, and the cream churned in the dairy, under the immediate and personal supervision of Prof. S. M. Babcock or I. P. Roberts, two members of the Testing Committee.

In scoring the butter and cheese, the expert judges had no means of identifying the packages they were examining. After marking their scores, they transmitted the packages to Chief Buchanan who, after examining same, removed the names of the scorers and transmitted the packages to the Testing Committee, who entered the scores, taking the average of the three experts.

The Testing Committee consisted of the following Professors, representing the Asand Experiment Stations: Prof. M. A. Scovell, Kentucky Experiment Station, consin Experiment Station ; Prof. H. P. | tionately. Armsby, State College, Pa.; Superintendents H. H. Hinds, representing the American Shorthorn Breeders' As sociation; Prof. W. H. Caldwell, repre-Agricultural Colleges and Experiment cal deductions, so that the tests satisfied some of the Eastern States. both the scientific and practical views of dairying. All the members of the Committee were throughout fair and impartial, and were actuated by the sole desire to have the rules carried out and justice done to all breeds.

These tests were the most prolonged. the most thorough, the most fair and impartial that have ever been held in the world, or are likely to be for many years to come. They cost the World's Columbian Exposition \$73,000. They settled more points in dairying than have ever ers. been settled before. They brought to light the merits, the strong and weak points of the breeds, and in doing so demonstrated that the Jersey cow is the greatest of all dairy cows.

Success in Life

depends on little things. A Ripans Tabule gives good digestion, and that means good blood, and that means good brain and brawn, and that means success.

SHEEP AND WOOL.

Shearings.

Mr. J. S. Woodward, an experienced sheep breeder, reports experiments made in feeding beans to sheep that resulted disastrously. There were several deaths from the same cause, viz., rupture of the bladder, when the straw and pods were fed. Mr. Woodward believes the pods were the cause of the trouble. This is a This disease may have a great variety. of causes, and is rather a symptom than a special disorder of the bowels. It may be due to indigestion, which in its turn has many causes, as from the food, the disastrously. water, the time of drinking, working too

WISCONSIN STATION.

Live Stock Judging for the Ogilvie Medal by Students.

[By Prof. J. A. Craig, Madison, Wis.]

During the latter part of March, the fourth annual contest for the Ogilvie somewhat new experience, for bean straw with the pods have been fed to sheep and competed for. Only the secondfor many years without any ill results. year students in our Agricultural It may have been that the straw, and College are allowed to compete. There especially the pods, were diseased by the were 16 in the class, and all of these rust, or some other fungoid disease, and entered, thus making the contest closer it is a well-known effect of all kinds of than in former years. As the medal is fungi to act on the urinary organs very given to the student showing the greatest proficiency in judging draft horses, It is a common belief that timothy and sheep of the mutton breeds, it is hay is a poor feed for sheep. Mr. Wood-ward corroborates this general belief. extensive; while the worth of the medal

calling into play many fine points of discrimination. In passing through Chicago on the way to Mr. W. M. Dunham's large stock farm at Wayne, time was taken to make a short visit to the stock-yards.

To inspect Mr. Dunham's establishthe best animals in the stables. Through eration. the kind consideration of the proprietor the students had exceptional facilities for studying Percherons of the best type. The only drawback was the lack of time to do them full justice. Four classes were judged-aged stallions, three-yearolds, two-year-olds, and yearlings, and there were four animals in each class.

Mr. Alexander Galbraith, Secretary of the Clydesdale Association, was assisted by Mr. Dunham in the making of the awards. Mr. Galbraith commented on the horses as soon as the students had completed their work, and made many instructive comparisons drawn from the stallions exhibited.

This feature of the contest, the awardveyed practical lessons to the students, theirs in training during a lifetime.

Mr. Galbraith examined the papers competition among 15 students. As cent, to below one per cent, the medal is given to the student showing the highest general proficiency, the rian pest, and the mortality from that average standing is considered. The results are as follows: Winner of medal, W. J. Stevenson, Poynette, Wis., 87.20; C. S. Phillips, West Salem, Wis., 84.48; A. B. Sayles, Waukesha, Wis., 84.45; D. C. Edgerton, Fon du Lac, Wis., 84.38; L. Brandt, Jacksonville, Wis., tory near Nijni Novgorod. Anthrax 83.75; F. H. Everson, Lake Mills, 83.75; F. H. Everson, Lake Mills, was not very common in Great Britain, Wis., 82.56; H. J. Bennett, Belvidere, but during the last few years has been Ill., 82.19; C. H. Diener, Stephensville, Wis., 81.83; G. C. Butler, Sussex, Wis., 81.71; W. F. Jewell, Dodgeville, Wis., 81.35; W. W. Hamlyn, West Bend, Wis., 81.31; J. E. Bixby, South Haven, Mich., 81.07; William Greenland, Sussex, Wis., 80.98; H. W. Maynard, Waukesha, Wis., 80.57; N. H. Merrill, will soon be in general use, as it is recog-Alma Centre, Wis., 78.

former years. Last year the six in the tective character. competition varied from 75.16 to 85.18 per cent., and the year before the same number varied from 64.2 to 71.8. The same examiners acted in all instances.

The work of our students has atacting as single judges at nine different County fairs in our State. From the 119,000 animals were successfully vaccireports of the Secretaries, and accounts nated in New South Wales. of the work of the students in the local arisen over the work of the judges at the Union. Facilities for diagnosin to remove a large part of the dissatisfaction by sending out students that are render a reason for the awards they may

Vaccination of Domestic Animals.

Vaccination is generally understood to mean the act of inoculating a human being with cow-pox in order to protect him against small-pox. Since Pasteur's discoveries, however, "vaccination" has become a general term for the act of injecting into an animal's system any substance whereby protection or immunity is assured against a given disease. The substance with which such protective " vaccine."

One of the most fatal diseases of do mestic animals is that technically called Anthrax; but owing to the numerous and varied symptoms it is colloquially cult feature to teach. Periodical visits charbon, black murrain, blcod-striking, carbuncular fever, etc.

Anthrax principally attacks cows. which they have all trained long and few hours' sickness. The disease is the feeding of them is. It is a common competition began by judging Shrop-shires at the farm of A. O. Fox, of introduce the disease; a stream of water for this belief. On the contrary, the Oregon, Wis. Classes were formed of will carry the germs hundreds of miles; milk is not only increased in quantity, aged ewes, ram lumbs, and ewe lambs, manure is a constant sourge of infection. but the quality of it is improved. The each section was judged and the students always great, and the consequent mor- erably higher than from the dry food had given in their written reports, the tality generally very heavy. Once the used at this season, when a stock of sheep were awarded places by Mr. George disease introduced, it is extremely diffi- pumpkins is found most useful. One McKerrow, assisted by A. O. Fox. The cult to eradicate it, as the germs are very good-sized pumpkin chopped into slices hardy and remain alive in the ground

section, were passed upon by the students. in, usually finds the patient dead. A gourd.

After many years of research Pasteur domestic animals; that is is to say, he rapidly-increasing quantities. found that the injection of a few drops of a specially prepared liquid would pro-Pasteur expounded his theory to the

Academy of Sciences in Paris and folcinated, 29 not. The whole number of | Read its weekly paper, "Light cinated, 29 not, The whole number of | Cincinnati, O. 10 cents for a trial month

Indicative of the merit of the sheep them received a "dose" of anthrax. on the students were called upon to Of the non-vaccinated animals 25 died that the students were called upon to judge, it is sufficient to say that many of and the remaining four were rendered them had been before the World's Fair very sick, whereas the vaccinated anijudges in 1893. At each place visited mals showed no signs of ailing. This there were sheep of this character; thus experiment definitely proved the efficacy of vaccination, and one country afthrough ter another has gradually resorted to Pasteur's anthrax vaccine as being the only effective preventive remedy against anthrax in domestic animals. The vaccinated animal is removed from all danger of contracting anthrax, and can ment in the ordinary way were well worth the trip, but it was trebly so to have such an opportunity as this to critically and closely oversities. Vaccicritically and closely examine some of nation is a simple and inexpensive op-Up to the present time over 4,000,

000 of aninals have been vaccinated in France, with the gratifying result that the mortality from anthrax in that country has been reduced from an average of seven and a half per cent. to loss than half of one per cent. In Austro-Hungary 57,864 inoculations were made in 1887, while last year over 1,000,000 animals were successfully vaccinated. Prior to the introduction of Pasteur's system of vaccination the mortality from anthrax in Austro-Hungary was from 10 to 60 per cent.; it has now been reduced to an average of a third of one per cent. The Pasteur Company's Laboratory in Buda-Pesth ing of the animals their proper positions | now prepares over one million doses per by men experienced in such work, con- annum. Vaccination against anthrax is extensively practiced in Germany and which no manner of cursory inspection a laboratory was established in Stutt-could impart. The students are in this gart in 1894. Italy derives much beneway given an opportunity to adjust their judgment to that of men who have had vaccine. A laboratory was first established in Turin in 1887, but last year it was purchased by the Italian Governrelating to the horse judging, and the ment and transferred to Rome. Belpercentage secured by the class varied gian and Spanish farmers vaccinate from 85,25 to 92, which of itself indicates the uniformity of the work, and latter country the mortality from antells something of the closeness of the thrax has been reduced from 20 per

In Russia anthrax is known as Sibedisease is very heavy, especially among horses. Pasteur's anthrax vaccine having been found effective, vaccination was extensively resorted to, and the Russian Government last year authorized the Pasteur Company to establish a laboragradually on the increase, so much so that in 1890 restrictions were placed by Congress upon the importation into the United States of hides coming from England. Pasteur's system of preventing inoculation against anthrax has been introduced into Great Britain, and lma Centre, Wis., 78.

These results are higher than those of checking anthrax must be of a pro-

Anthrax is generally known as Cum berland disease in Australia, and about 200,000 animals were carried off every year. After ascertaining the practica value of Pasteur's anthrax vaccine, the tracted the attention of the Secretaries of New South Wales Government recomthe County fairs, and as a consequence | mended vaccination, and a laboratory last year there were 12 of our students for the preparation of vaccine was fitted up near Sydney. During the year 1893,

Anthrax prevails in all parts of the papers, they seem to have given general world, and is found in one form or satisfaction. The difficulties that have another in a majority of the States of the County fairs have generally been the malady are not usually available, due to inefficiency, and not so much and deaths from anthrax are very often because of oversight or undersight on attributed to some other disease. The the part of the Secretaries. We hope only positive proof that anthrax was the cause of death is the presence in the blood of a germ known as the anthrax skilled in this direction, and such as can bacillus. All sudden deaths should be suspected as arising from anthrax.

Pasteur's system of animal vaccination is commercially practiced by the Pasteur Anthrax Vaccine Company, of Paris, which has recently established a branch office in New York City. It is meeting with much encouragement, and hopes to be able to confer as much benefit upon the owners of live-stock in the United States as it has upon European

HAROLD SORBY. 369 Broadway, New York City. May 14, 1895.

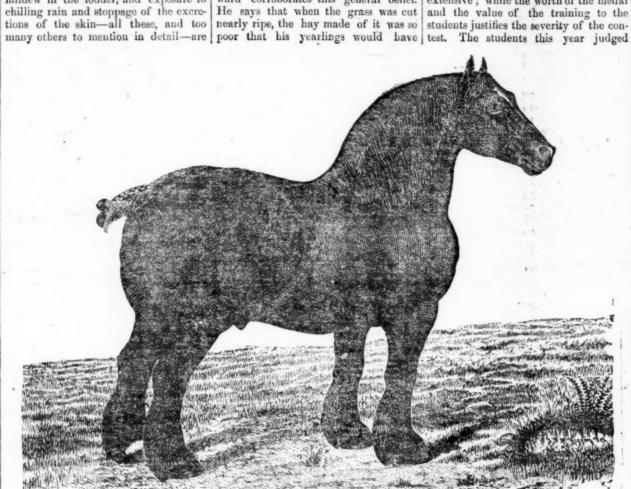
Pumpkins for Cows. One of the most valuable crops for

feeding cows is that of pumpkins. But the best product of this, as of all others, is when it is made the single effort, and not as a side show in a cornfield. When grown alone and well cultivated, it is easy to get as much as 30 or 40 tons on oxen, horses, mules, goats, sheep, and an acre of good land. The growing swine. Death, as a rule, occurs after a them is not any matter of dispute, but caused by a germ that is usually taken | belief that they cause the milk of cows into the body with the food. Everything to shrink; at least, this is said of the coming on the farm or ranch is liable to seeds. But experience gives no cause The danger of an outbreak is therefore color of the butter made is also considgiven to each cow twice a day, will be found a valuable addition to the best Owing to the varied symptoms anthrax feeding. And no trouble need be is a most difficult disease to diagnose borrowed in regard to any ill results during life, and its rapidly fatal termina- from the cows eating the seeds. The the body, giving an appearance of ribs. Rams, ewes, ram lambs and ewe lambs of tion renders treatment almost impossi- seeds and stringy matter attached to these breeds, with four animals in each ble. A veterinary surgeon, if called them are the most nutritious part of the

> Frozen milk is now imported into England from Holland and Sweden in

> A change of seed is offer beneficial. Seed from a distance can frequently be substituted for home grown with marked profit.

> New York farmers estimate leaves highly as bedding material and their



provocative of this disease. The irrita- starved on it. As it sells for more than both sexes and nearly all the ages that moderate purgative from all irritating matter. For this give a dose of one pint of raw linseed oil, adding one ounce of laudanum, after which feed good sound oats, steeped in hot water and cooled, with one-fifth part of linseed. Add to this feed, given once a day, preferably in the evening, one dram of powdered gentian root and 10 grains of nux vomica. Continue this for three or four weeks, if necessary; the rest of the feed may be bright corn blades, or good grass

The Best Pigs for Profit. This depends on the conditions under many kinds of pigs, each of which has method to relieve the lambs, or even the its good points and right place. Per- sheep, from these pests, to pour butterdoing well under any conditions, pro- that the fluid will flow down the sides vided the feeding and care are of the and choke the ticks. It should be known best kind, is the Berkshire, but there are in dealing with any kind of insects in are preferable, as they do not sun-scald these openings are easily choked and the as the white ones do. The Essex is the breathing stopped by any viscous liquid easily 250 pounds of live-weight at the they are brought into contact. age of six months. For running at large on grass or clover, with milk and some sociation of the Agricultural Colleges meal, the Berkshire is unsurpassed, making lean and fat meat, with heavy hams and shoulders. It is also an excellent Chairman; Prof. I. P. Roberts, Cornell pig for millers and dairymen, as it will University; Prof. S. M. Babcock, Wis- stand heavy feeding and grow propor-

Goats Paying Better Than Sheep.

A Missouri farmer writes in an exchange that he finds goats profitable for small quantity, in a separate pan with senting the American Guernsey Cattle rough land filled with weeds and bushes. Club, and V. E. Fuller, representing the He has had goats for four years, and American Jersey Cattle Club. Meetings they have destroyed the bushes, sumach of the Testing Committee were held and small persimmon trees. His hogs daily. The high character of the gentle- have been free from disease, while all men representing the Association of around him farmers who did not keep goats lost most of their hogs by cholera. have begun to pick grass, increasing Stations, their well-known ability and The writer says that the meat of young probity, testify to the disinterested goats is better than mutton. The wool character of the work performed in the of sheep is now worth so little that the testers Their knowledge of the subject question is worth thinking of whether a warranted scientific application when few goats may not be kept with profit such was advisable, coupled with practi- on rough land unsuited to cultivation in

Yard Echoes.

The day of the "Longhorn" is gone in Texas. Already the pastures are dotted with white faces, and besides the popular Hereford they have Holsteins, Polled Angus and Shorthorns.

The small, vicious Texas pony has thoroughbreds, trotting horses, Percherons, Cleveland Bays and French Coach-

When the calf comes, keep it growing from the start; a week's stunt at the first

The beginning of cleanliness with the good springs.

tion due to worms in the intestines is clover hay, his practice has been to sell make up the usual classes and sections another cause. The first part of the it and buy clover. He has noticed that at the fairs, including Southdowns, treatment is to free the bowels by a the sheep eat straw out of the barn much better than that from a stack.

Ticks on Lambs.

After the sheep have been shorn, the ticks will gather on the lambs and worry the little things to death, without the shepherd knowing anything of the cause, unless he is more observant of things than is usual. - This is to be looked after without loss of time, as the lambs will not grow unless relieved from this exdust. Mildew in the feed is one of the small the ticks may be picked off by most common causes of this trouble. | Small the ties may be pair of hand and killed by means of a pair of small seissors, by which they may be clipped in two; or the flock, if large, may be dipped in one of the common which the pigs are kept. There are sheep dips. It has been found an easy haps the best breed for all purposes, milk on the back, dividing the fleece, so others that are very satisfactory, as the any way, that they breathe by means of Essex, the Cheshire, and the Chester spiracles, or openings in the side, and not White. For the South the black pigs as animals do by the mouth or nose, and best for the majority of cases, making or any kind of oil or grease with which

Feeding Ewes with Lambs.

If the pasture is good, the safest grain to feed the ewes is a mixture of oats and buckwheat, of which one pound a day may be given with profit. This food is excellent for making milk, which should be the principal object of the feeding at this period. At the same time, this mixed grain may be ground finely and given to the lambs in a narrow openings to let in the lambs and keep cut the ewes. It should be spread in rather broad, flat feed troughs, so that too much may not be eaten at once. An ounce or two a day may be given after the lambs are four weeks old and with the age and growth.

One Way to Shear a Sheep.

In shearing a sheep the neatest way is to take off the fleece from the belly toward the backbone. A fancy shearer in the old country says he was taught to make a continuous line toward the backbone by successive snips of the shears. These lines met at the backbone a straight line toward the under side of This operation was, in fact, called ribbing. The wethers were usually sold disappeared, and in his place are fat after shearing, and this ribbing Mr. McKerrow acted as examiner in preventive remedy is therefore essential. gave them an attractive appearance.

These noxious insects, which do so much mischief to sheep, and especially is hard to make up the first year, if the lambs, may be got rid of by the use of the kerosene emulsion poured on the is used. judging.

Shropshires, Oxfords, and Cotswolds while in horses the work was confined to the several ages of stallions, and limited to Percherons. The training of the students before they are allowed to enter on this competition extends over two years', or more

properly two terms', careful preparation in the judging of the different class of

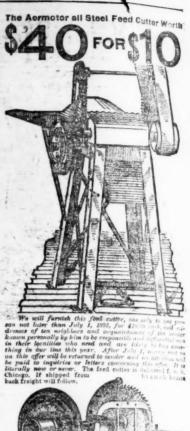
In the first year they do not get much beyond the score card. Every after-noon during this time a section of the hay, with clean oats, free from mould or and greedy suckers. Where the flock is kind, either light or heavy horses, beef or dairy cattle, sheep or swine. They have score cards to fill out, and when they have completed that the instructor goes over the animal and gives his marking and reasons. Thus, scoring gives the students the foundation for the judging that begins in the second year. During the latter term the score card is discontinued, and instead of only scoring one animal three or four are brought out and the students award these first, second or third places, according to merit. They submit their awards to the instructor, without any consultation with each other, on prepared blanks, and they give their reasons fully for each award.

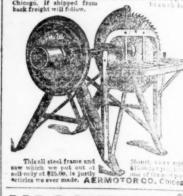
When all the students have reported the instructor goes over the animals, states how he would make the awards. and the reasons are subjects of discussion among the class. Three afternoons of the week are given to this feature of inoculations are made is known as a the live-stock instruction, in addition to the lectures of the class room.

The students soon become quick obervers of good form in animals, and they learn to distinguish the different types of the breeds, though this is the most diffi- known as splenic apoplexy, blackleg, are also made to stock farms to further prepare the students for the competition, that they may enter it feeling that they are to undergo a severe test for

After careful training of this kind, the with four sheep ingreach class. After reasons for assigning the sheep the positions given them were rendered by Mr. for a number of years. on each side. The slight ridges left by McKerrow. The next farm visited was the strokes of the shears went down in Mr. McKerrow's, at Sussex, Wis., where Southdowns and Oxfords were judged. these instances. The Cotswolds were judged next at the farm of Messrs. Geo. discovered a "vaccine" for anthrax in Harding & Sons, of Waukesha.

Three sections, rams, ewes and ram lambs, were judged; Mr. Frank Harding, assisted by Mr. McKerrow, award- tect an animal against anthrax. ing the sheep their proper positions. sheep's back and worked down in the This completed the work in sheep judgcow is with her quarters. The stables wool on the sides. It is made by dissolv- ing, except the students' papers, which lowed it by practical demonstration. must be cleaned regularly and plenty of ing soap in hot water and adding one- was done by Mr. McKerrow. According The experiment took place near Paris. bedding supplied; this aids materially half as much kerosene as water, and to his marking the 15 students that com- Sixty animals (cattle and sheep) were manurial value at \$2 per ton, in securing proper cleanliness. The shaking the mixture thoroughly, then peted in the examination ranged in per- selected. They were divided into two best water is that from living wells or adding five times as much water when it centage from 61.5 to 81.5 in the sheep groups. Thirty-one of them were vac-





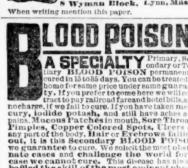
LIVE STOCK

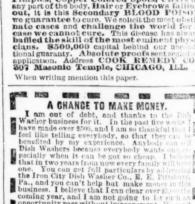
PREVENTIVE REMEDY

Anthracoid Affections, Charbon,

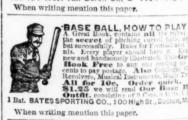
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DISEASES OF CHICKS.

What Causes Some of Them and Remedies Therefor.

The damp, chilly weather of Spring will increase the mortality in the poultry-yard, unless constant watchfulness and care are given. It is important to raise every chick hatched-every death reduces profits. If the chicks are given good care and kept warm and dry there will be but little trouble in raising them. Chicks that are neglected and half fed cannot possibly thrive. If an adult fowl gets sick there is some chance, for it will stand dosing, but chicks are small and weak, wil lnot stand much doctoring, ling them. A sick chick will drink when it will not eat, and the best way to give it medicine is in the drinking

Rowel Disease,—When the droppings are hard and a portion is white it shows all soft food and sprinkle generously vermin .- Baltimore Sun.

with red pepper. Break a raw egg in a

half pint of sweet milk, thicken with

stale bread and add a half teaspoonful

of ground ginger. Give plenty of boil-

to doctor it without first removing the

eves, hoarseness and difficult breathing.

It affects the bowels. Roup is con-

tagious and must be treated at once.

Separate the sick ones from the rest of

the flock. Bathe the head in warm

milk and inject into each nostril and

down the throat two drops of kerosene.

Another remedy is one part turpentine

and three parts sweet oil. A sewing-

machine oil can is an excellent thing to

inject medicine into the nostrils and

throat. Give this theatment morning

Gapes.-Gapes are caused by the

lodgment of small worms in the wind-

pipe. Give a drop of spirits of turpen-

tine on a crumb of bread twice a day.

If this does not cure dip a long feather

twice; the worm will stick to the

feather. Another remedy is 10 drops

of camphor to a pint of drinking

Leg Weakness .- When the chicks are

Too much bottom heat in the brooder

or lack of exercise will cause leg weak-

ness. Scatter millet seeds in chaff or

cut straw to induce the chicks to

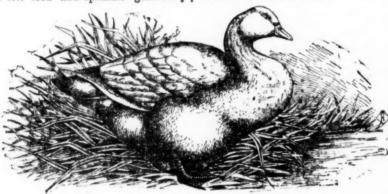
scratch and work and thus avoid leg

weakness .- Dola Fay, in Farm Stock

debilitated that they quickly succumb to roup. The gapes rarely appear on hilly locations or where there is sandy soil. On damp or very level ground freely scatter air-slacked lime at least every 10 days and frequently change the location of brood coops to new ground. Chickens fed the proper varied

BLACK EAST INDIA DUCK. diet-that which includes raw cut or and there is much difficulty in hand- | ground bone—at least three times a week will rarely be troubled with leg weakness.

Lice and mites are the great drawbacks with young chickens, and nine-tenths of their ailments can be traced to vermin. Cleanliness and as soon as that the feed is correct; when it is the chicks appear droopy, listless or slimy, or the bowels loose, make a complete change in diet. Thoroughly cook lard, are the two methods to keep away



Poultry vs. Cows.

An interesting discussion has been going on regarding the relative profit to be derived from a given number of ed sweet milk. Chicks are seldom chickens and a given number of cows. troubled with costiveness, but if it While one fancier declares that 15 hens appears increase the amount of bran in are more valuble than the average cow, the feed and give sour milk. Sour milk a stout vaccine partisan swears by the is very relaxing, and should never be beard of the prophet that he can make given to growing fowls except in case of more money from one cow than any man can from 100 hens. The result of Roup.—Roup is caused by dampness, experiments made under varying condi- low varieties gave only 40.5 bushels per drafts, improper food and impure tions are now useful.

water. It is a waste of time and labor | One farmer made a test with 50 chickens and one cow, and gives a result as follows: Value of milk sold from one causes. The symptoms are swollen head, watery discharge from nostrils and cow, \$144.10; income from 50 hens,



BROWN CHINA GOOSE

mostly for eggs sold, \$150.81. The lively and eat heartily, but are not able cost of keeping the cow was given at to stand on their feet from leg weakness \$52, while the maintenance of the hens it is the sign of rapid growth and is not cost \$50, and it was estimated that the a disease. All the chicks need is some value of the manure was equal for both. tonic. A teaspoonful of citrate of iron The former was greatly in favor of the in a quart of water will cure the trouble. hens in the matter of lessened labor, of care and attention, the cow requiring more time and far less agreeable labor. Numerous other experiments reported, if summarized, would probably result in favor of the hen, if taken in the ratio

of 50 to 1. The chief value of the controversy has been to show that no dairy farmer should be without a fair ratio of poultry and no poultry raiser should fail in maintaining a proper number of cows. For small, irrigated farms intensively cultivated, nothing is better able to contribute to the family needs than cows and poultry. As many of each only should be kept, however, as may receive the best of care and attention, and pains should be taken to have only those of

best blood and lineage. Right here is where the small, wellwatered and well-tilled land holding becomes so potent a factor in the upbuilding of a higher and better civilization and citizenship. Everything on such a farm must be of the best, and the man Good care, proper feeding and cleanwho tills his few home acres as a chemist liness is a prime factor in preventing uses his laboratory to achieve the best bowel disease. Water varies in quality results which skill and science can evoke, and some kinds that stand in vessels must necessarily climb to loftiest hights, long in the sun will cause bowel diseases and take his family with him, than he or scours. Roup is, indeed, one of the who plods in the fruitless endeavor to dread diseases of the poultry-yard. In cover a large area, without any approach addition to the causes named by the to scientific skill, either in cultivation or writer is filthy hen-houses. Fowls that management. - Colman's Rural World. Cacklings.

Ducklings thrive best on soft food. One part cornmeal, one part bran, and a small portion of animal meal, mixed with cooked potatoes or turnips, make an excellent mess for them. The drinking vessel must always contain plenty of water, so that the bills may be cleaned by the ducklings, as they are liable to die f their nostrils are clogged. They also require water to assist in swallowing their food, but should not be allowed on ponds until well feathered.

If you hatch out scrub chickens, and then try a few Plymouth Rocks or some. other pure breed, you will notice quite a difference in the sizes in three months. We venture to claim that the scrubs will cost fully as much as the others, but the difference in weight and prices received per pound will show a profit on the one side that will make a very unfavorable comparison for the scrubs.—Mirror and

The improved breeds of poultry have made poultry-breeding successful and profitable, just as the improved breeds of live-stock have become so essential to the production of superior quality with early maturity, says Western Agriculturist. The common dunghill fowl cannot compete in the markets now as table fowls with the fine, large, plump birds of the improved breeds, and if eggs are wanted the improved breeds are more essential. There are special breeds for laying, and special breeds for table, and some breeds well adapted for both on the farm. The professional breeder takes up a special breed, and supplies the general poultry-breeders with pure-bred stock. Poultry breeds up so rapidly that all who raise poultry at all should grade up as in stock breeding with purebred males or breed pure-bred stock al-

White and Yellow Corn.

Whether the yield of corn is affected by color, and whether the white or the yellow varieties produce the greater yield, has always been a matter of dispute. In order to secure definite information in regard to this the Mississippi Experiment Station has made 138 ests with 45 varieties of dent corn. As a result of this work the 75 tests with 25 white varieties have given an average yield of 43 bushels per acre. while the 63 tests with 20 yellow varieties have given an average of only 38.2 bushels per acre. These total averages coincide very closely with the partial results published in several of the Annual Reports, and which were as follows: In 1890 the yield of 17 white varieties was 44.6 bushels per acre, while 15 yellow varieties gave 37.1 bushels. In 1891, 25 white varieties yielded 37.5 bushels, while 18 yellow varieties yielded 34.9 bushels per acre. In 1892 the yield of 11 white varieties was 45.2 bushels, while the same number of velacre. It 1893 and 1894 the tests were continued, with 22 white varieties yielding 42.7 bushels, and 19 yellow varieties yielding 39.1 bushels per acre. During each year of this work the two varieties giving the heaviest yields were both white, though not always the same

These results have been so uniform, and have indicated so strongly that the better yield can usually be secured from the white varieties, that the published records of similar work done at other stations have been examined very carefully, and have been found to correspond very closely with the results secured at this station.

These figures show that in a total of 1,267 tests with 490 varieties, the average yield of 217 white varieties has been 2.5 bushels per acre in excess of the yield of 273 yellow varieties; and that at only one of the seven stations making these tests have the yellow varieties given the better average yield. At six or seven stations some one white variety has given the best yield, and of the 35 varieties named as giving the best yields at the different stations, 24 are white and only seven are vellow.

Such an agreement in results over such a wide area, and secured by such a large number of careful tests, cannot be accidental, but shows very plainly that it is usually possible to secure greater yields from white than from yellow

Full details of these experiments are published in Bulletin No. 33, copies of which can be had by addressing the Director of Experiment Station, Agricultural College, Miss.

Training a Colt.

In the training of a young colt the outting on and taking off of the bridle is of much importance. Every care is to be taken to do this without hurting the colt. If it is done cautiously, the young animal will soon learn to hold down the head and assist in the operation, and ever after to remember the lesson. One other thing is to be taught him by the trainer, which is to come at call. A world of trouble, much time, and a vast amount of ill-feeling and irritation will be avoided by care in this part of the education of the horse. A little sugar carried to the pasture-or a little salt will be equally attractive—will teach this lesson in such a permanent way that it will never be

Sorgo Machinery and Fruit Evaporators.

The Blymyer Iron Works Co., of Cincin nati, O., manufacturers of sugar cane and sorgo machinery, fruit evaporators, etc., have issued their catalog for 1895, which contains much of interest to farmers. Sent free on

THE APIARY.

A great deal can be learned about

bees from books, but it is wiser to watch a family of bees and see them manipulate themselves in the apiary.

Of the various patterns of hives used by practical beekeepers the Dovetail and the Simplicity are the favorites and probably shelter four-fifths of all the bees in the country.

After the honey is in the supers and capped over, the longer it can be left on the hive the better it will be. Of course if a crop of dark honey follows closely on the light one, or there is danger, owing to the lateness of the season, of the honey becoming soiled and darkened, it should be taken off at once.

To rid a bee cellar of mice, try to suit the taste of all. Take two or three shallow dishes; in one put some cheese that is mashed up fine; in another put some fresh beef and pork together, chopped up fine; in the third put honey, and if you have both dark and light it is well to use a little of both. Season the contents with arsenic well mixed in.

When the first lot of sections are about filled, they should be lifted up, and another lot, fitted up in the same way as the first, put under them. When the last lot are partially filled a third lot may be put under them. This process may be continued until there are four or five supers on the hive, if the honey is coming in rapidly and there is a prospect of it continuing to do so until they are all filled. Of course, one must understand the nature of the honey-flow and not put on so many sections that they will not all be filled and capped over. By watching the matter closely this may be guarded against. It has been my experience that a good, strong colony will fill two or three supers about as quickly as they will one, if they are properly manipulated.

The buckwheat flowers very late in the season and generally at a time when most other honey plants have closed up their blossoms. It furnishes consequently a Fall crop of nectar unequaled by any other plant. The bees gather quantities of nectar from the blossoms. They should gather all that is possible in the Fall, and this will keep them satisfied until cold weather comes. Then let them have the buckwheat honey for their Winter food. It answers all purposes just as well as the lighter grades, and if there is no market for it very little is lost. By growing plenty of buck wheat the question of supplying the bees with Fall and Winter food is easily solved, and all the Summer and Spring honey can then be sent to market.

BEES.

About Swarming and Hiving Them.

The bees swarm because their natural instinct is to multiply themselves, and because their home becomes too small and warm. The bees in small hives will swarm earlier and more in number if left to themselves, other things being expect to get a good crop of honey, I have found by long experience that purposely for Her Majesty, and lay her good-sized hives are better than small in the shade. We move the hive to the ones. I think it is better to give them room to occupy just as soon as the strength of the colony will permit; don't not be apt to swarm so early, and when | oilcloth over the frames to keep the bees a swarm comes off it will be very large. Such swarms are A No. 1 for making comb for extracted honey.

A record should be kept of the date parent hive and dispose of all the surplus sary for each colony. At such times the opportunity is good to supersede poor stock with good. If the surplus queencells are not cut out, there will nearly always be several after swarms, or casts, which are very annoying, as such are often hard to manage, and unprofitable, unless we want increase. By managing thus, you have only doubled your stock, and your bees should be in prime order to get honey.

I will give a few thoughts about swarming and hiving the bees. The old way used to be, when the bees swarmed, the women folks and all hands were out with the bells and the tin pans, and there was din and clatter until the bees settled, which was not nearly as soon as they would have if they had been let alone. better-for the bees to cluster on. No cut some, and put in front of the apiary about two rods. "Put down as you would hop-poles. The bees will cluster on them. and you can pull and carry the swarm where you choose.

Now, I will give you my plan. When you first see a swarm coming out, go quietly to the hive, stand beside it, and see if the queen is able to fly with the swarm; if not, you will find her on the ground, if you are on hand. If she is not able to fly, place her in a cage quickly, and put her with the swarm, or else remove the old hive out of the way, and place a new empty one on the old stand. Place the queen in it, and the swarm will hive themselves; although, care should be taken and not let them go into other hives, as they sometimes

Now, when the queen flies with the swarm, if you wish them to alight needed to sow. quickly, don't get in their way, nor inerrupt them, unless they should move In that case, sprinkle with water, or scatter dust among them. The first or prime ter dust among them.

will.

swarm will rarely ever try to run away

if properly treated.

I use a light box on a pole about 10 feet long. The box is like an old-fash-ioned box-hive, with one end open, and lots of holes bored in it for a swarm-hatcher. When about two quarts of the bees have clustered, put the box up and shake them in, and turn end out so the this too soon, they will all go right in or right length, and prepare the hive, if not ready.

Right here let me say the hive must

be large enough so the bees will have enough, and the hive must be well shaded or they will not stay.

When the bees are all settled in the

box you can carry them where you wish. To hive them, take the top of the hive off, and the queen-excluder, and put a quart or two in to start them; put the excluder and covers on carefully, and shake some in front of the entrance. They will soon go in. You can hurry them up by brushing them carefully When you pour some of the bees out, hold the box out of the way, or it will draw them to it. Gently tapping on the hive will help to get them in. You can put sections on immediately, or extracting super over a queen-excluding honey-

Should the bees be very cross while swarming, the smoker is the best remedy. If you shake them off the tree, and they fall some distance, they will be angry. I have kept bees on the above plan for 17 years, and have found it reliable. I seldom, if ever, have any "runaways."
—A. C. Sanford, in A. B. J.

A TALK ABOUT BEES.

Some of the Pleasures and Methods of a Keeper.

MRS. WILLIAM D. KRATZ, MONTGOMERY COUNTY, PA.

The best way is to get one swarm of bees in movable frame hive, subscribe for a bee journal and get a good bee book. When we started in the business we read all about bees that we could find. Much of it was jargon; but by having the bees in possession and verifying what we read, our eyes were opened to things we never dreamed of. We bought our bees in the Spring, and their humming was delightful after the stillness of Winter. Looking them through was fascinating work. had to see that they had a queen, and if no queen was found, and no brood to raise a queen from, one had to be bought. as we just had one swarm. When fruit bloom came we took the chaff cushion out that was in the upper story and put frames in filled with boxes of foundation made of beeswax, fastened to the upper side of the box. When the first box was filled with honey and sealed over, and I could set it on my table, I was glad, as it was the first comb honey I ever saw, and it made me like the bees in spite of stings.

After that, swarming came on, and, according to the teachings of our beebook, we clipped the queen's wings to facilitate swarming. All we have to do equal. Now, if we wish to control the then is to catch the queen as she crawls swarming tendency, and we must if we on the grass in front of the hive, cage farthest end of the apiary, and turn the entrance to face a different direction than when it stood on the old stand. wait until your hive is chock-full of bees. Put a new one in place of the old hive, By giving room in advance they will fill it with empty frames, and lay an from clustering to the hive-lid when in the hive. Meantime the swarm has clustered and is hanging to the limb of a tree. We shake them off, and they of the swarming, because in seven or all go back, as they think, to the old eight days we must go through the hive. When going in at the entrance we release the queen, and watch a little queen-cells, as only one queen is neces- to see her enter the hive. When she is in, that swarm is hived. Changing the hives gets all the bees that went with the swarm, and those that are in the field, in the new hive that is standing on the old place. The old hive will raise a young queen, and will get enough

bees from the hatching brood. We just take honey from the upper story and leave the lower story for the bees, unless we find the bees crowding the queen out. In that case we put the sealed combs in the upper story, as it is also an inducement to get the bees to work in the upper story, and put an empty frame with comb in the lower story for the queen to lay in. Having kept bees for 10 years, we find extracted honey is the best for farmers. That is, extract the honey with an extractor, out It is nice to have some small, smooth trees of the combs, and return the combs to near by, but should not be allowed to the hive again. It can be kept better get over about 12 feet high-smaller are over the year and can be left in the hive to be extracted at leisure. When Fall large trees should be near the apiary, as comes we prepare for Winter. The they are apt to make trouble. If you weak ones we unite to make one swarm, have no trees, just go to the woods and as it is better to have one swarm strong and come through the Winter than to have two weak ones, and both die. We look to it that they have 25 or 30 pounds of honey sealed in combs. If they have not that much we make sugar sirup to supply the deficiency from granulated sugar, but early enough in the season that they can cap it over before cold weather comes.

A New Honey Plant.

Beekeepers have long wanted a plant it is grown. Such a plant has been discovered. Figwort, the spider plant and others

have been found wanting in honey. At present many German beekeepers are enthusiastic over the new forage plant that seems worth while trying on this side of the water. A few seeds are all that is

A scientist named Wagner, of Munich, Germany, has worked for the last 30 years crossing and improving from a bit-

by all kinds of stock. He has given an illustration of the plant which shows its resemblance to the sweet pea, to which it is related. The roots penetrate the hardest and most rocky soil, reaching the depth of 10 or 20 feet, and a drouth has little effect on it. Barren land is improved by being occupied by it. Like the red clover, it takes nourishothers can fly in, and if you don't do ment from the air, and is related to the flat pea. Four tons of dry hay per acre is obtained of three cuttings. The first on the box. You can just lean the box is obtained of three cuttings. The first up against the tree if the pole is the cutting takes away all chances of an early honey crop, but the bees get a rich har-vest after it, and the yield lasts until October. It is hard to get it started in this country, so a little difficult to raise. reasonable room, and the entrance large It is liable to be Winter-killed during the first and second years.

Largest Beehive in the World.

Probably the largest beehive in the world is that at Bee Rock, Cal. The rock is, in fact, itself the hive. It is a granite bowlder rising abruptly from the bed of a little effluent of the Arroyo Alcalde, and it is seamed and scored with fissures of divers sizes, whose depths have never been sounded. They are all inhabited by a vast population of bees, and overflow with honey. It is impossible to estimate the quantity stored in the hidden recesses, and it is needless to say that nobody would be bold enough to explore. It is not without considerable peril that honey hunters rifle the bees of that which appears at the edge of and outside the fissures, and that comes to many hundred pounds' weight every

VALUE OF SWAMP MUCK.

One Way to Make Money in Winter. The manure made in the Winter should be husbanded with great care.

As it is never worth more than on the day it is made, it may be hauled out on to the fields or put in heaps and composted with whatever may be gathered for the purpose from every possible source. The owner of a disagreeable swamp, rough and full of dangerous mudholes, a source of pestilence and a loss of money every day in the year, will furnish one of the most valuable materials for compost, each load of which may be made worth \$3 to the owner. One ton of good average swamp muck contains 50 to 60 pounds of nitrogen, worth 10 cents a pound in this material. One cubic yard and a half will make a ton, so that one ton of the stuff as it is taken from a swamp is worth in actual cash \$4, more or less. Thus, an acre of swamp three feet deep of good, clear muck, free from sand, is worth the nice little fortune of nearly \$20,000. It is as clearly so as that the manure from the feeding of a ton of clover hay is worth \$7.50, or that from a ton of cottonseed meal is worth \$26. The figures are as good in one case as the other, and we know that figures will not lie." So the happy possessor of a little swamp full of good muck may go to work and make this "big money" out of it, beginning at once, for the Winter is the best season to do this work.

It is a case, too, in which two birds may be killed with one stone, for if the muck is dug out in broad, long pits down to the springy bottom, these may be turned to good and profitable use for rearing fish and growing water cress. Nothing need be said more than to mention the ice that might be cut on these ponds and used at home or sold to the neighbors. Many a disagreeable thing has turned out to be a mine of gold, but what can be better than to delve in this many times valuable swamp and turn it into a veritable gold mine, that will pay from the first shovelful turned? And this is the way to do it, or in

which it has been done. The ground, or it may be the water, is staked out into lots 10 feet wide and 50 feet long. Here will be 400 loads of muck, if it is three feet deep. It will occupy one man the whole Winter to get all this out. It is dug out in sections of 10 by 12 feet, leaving a narraw bank between each to keep back the water while the digging is going on in each section. The muck is dug with a grain scoop ground to a very sharp edge. It is thrown on the bank, or wheeled in barrows to the bank, and heaped there to drain. Some \$1 per pair. is hauled to the manure cellar, to the pig pens, to the horse stable, and to the cow stable, and a lot of it is spread in the yard. More is hauled to a convenient field, and heaped in layers with fresh manure, with lime liberally spread on each layer of it. Large, square heaps are made as high as the stuff can be thrown. It will absorb every drop of the liquid manure, and the solid manure will help to decompose it, so that in the Spring there will be 400 loads plus as many of manure as have been added to it, for the crops, and each load will be quite as good as one of the best manures ever made. It will take a whole lifetime to get a very few acres of swamp thus made worth so many thousand dollars. This is no fancy, exaggerated picture; it has been accomplished, with the result of making a very poor farm, of 70 acres only, make an income of clear profit of \$2,500 a year in only five years' work .- New York Times.

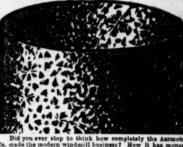
Herschel calculated the total weight of the atmosphere at eleven and twothirds trillions of pounds; and yet with which will pay rent for the land on which | this inconceivably vast weight it is only one one-million two hundred thousandth of the weight of the earth itself.

An Interesting Publication.

The Chesapeake & Ohio Railroad ha gotten out a folder of the highest interest to every old veteran and his family. It is a special publication for the coming Nationa Encampment. It is a fine map of Virginia with all the battle-fields in the war-swep country indicated in red ink. With this is hort description of the country and the mor important battles and compaigns by the well-known historian and writer, Gen. H. V. Boyn-

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tunity to see it and examine it, with a view to subscribing. We ask you to compare its contents, objects, and price with those of other papers, and see if you do not come to the conclusion that you ought to have it: that you cannot afford to do without it. We can assure you that if you send in your name for one year that you will find it one of the most profitable investments that you can make. We hope to make and keep it so interesting that you will think that every number more than repays you for the subscription price for a year. Please call your neighbor's attention to the

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We want every farmer in the country to take it, and we have devised a scheme which will give it to every one at a nominal price. The subscription price is 50 cents a year, and it is very cheap at that price.

But if two farmers will send their subscriptions together, we will give the two for one year for 85 cents, or 421

If three will send together, the price will be \$1.25, or 41% cents.

If four join together the price will be \$1.50, or 371 cents each.

It five join together it will be \$1.75. or 35 cents apiece.

If a club of 10 is formed it will be \$2.50, or 25 cents apiece.

This makes a price so low as to defy

There should be no trouble whatever in raising a club of 10 at every Post-

office in the United States. Let every farmer who wants a firstclass agricultural paper for the ensuing year at an almost nominal price, get nine of his neighbors to join him in a club, and send us \$2.50 for 10 yearly subscriptions to THE AMERICAN FARMER.

There will be no deviation from these

Send in your clubs at once, so as not to miss a number.

TAKE SOME SAMPLE COPIES.

Whenever our readers visit agricultural meetings of any kind we hope that they will take along sample copies to show their acquaintances. We will send these free to any one who desires them. If all our friends will take a little trouble to bring THE AMERICAN FARMER to the notice of their acquaintances, it will do much to build up the black walnut, and butter-nut trees. cause of true agriculture, and promote the ends we all desire.

Some place in the world wheat is now sown every month in the year.

THE NEXT CONGRESS.

It is time to be thinking about the next Congress. The one which expired on the 4th of March last, to the great relief of the country, was made up of men who blathered profusely of their love for the farmer and the laboring men, yet deliberately betrayed their interests in every important particular. The farmer was outrageously robbed by the iniquitous Wilson Bill.

The present Congress is believed to be made up of different and much better material. It certainly could not be worse, and very doubtful if it could be as bad. The country certainly cannot have another as precious a lot of injurious demagogs as held a witch's carnival in the Capitol for two years.

The farmers have the right and every reason to expect very much better things from the next session of Congress. They should come before it with a concert of action on a well-defined program. There is one very simple platform on which we can all stand-Republicans, Democrats, Populists, "Gold Bugs," "Silver Beetles." and all.

This is-

"American farm products for Amer-

Let us have it distinctly asserted as the definite policy of this country that American farmers should raise all the agricultural products that our people require.

This is due the farmers of the country, who bear the larger part of the weight of supporting the Government, and upon whose prosperity everything else de-

It is the truest political economy, against which demagogs and political quacks may rail in vain.

It is the best way to make money abundant in the country, and keep it so, by stopping the outflow of \$300,000,000 a year for products which should be yielded by our own acres.

It is the policy of true Americanism Every other civilized country begins by trying to help its own farmers. We are the only country which strips our farmers of protection, and encourages the injurious competition against them of those of other lands.

It will stop at once the outgo of nearly one-third of the money paid to foreigners, keep the money at home, and do more than anything else to make agriculture profitable, and give it its true dignity as a vocation which Americans may be proud to follow.

Let us go to Congress with a demand that it begin its duties with a careful ducts are imported that we can raise here, and what are the best steps to take to promote their home production. It cannot give too much time or thought to this great question. If Congress should devote its whole two years of existence to this, and develop a policy which would reduce our agricultural importations so little as 25 per cent. it would do the most important work that any Congress has done for a quarter of a century. That 25 per cent. would mean the enormous amount \$75,000,000 kept at home and put into the pockets of our farmers. It would mean the difference between prossmall farmers, and it would increase the

country's wealth beyond calculation. This is our platform, and we urge-Every American farmer,

Every true economist,

FOR AMERICANS.

Every thinking, reasoning man, Every lover of his country,

to stand with us upon it. AMERICAN FARM PRODUCTS

EVERYTHING seems to be going up except wool, and its prospects are as blue as ever. Our markets are now open to importations from every wool-producing country in the world, free of duty, and these generally have accumulated stocks to work off. The crime against the farmers committed by the last Congress | FARMER for one year for 90 cents. To is being felt in all its bitterness. There never was a more rascally bit of demagogery than taking off the duty on wool.

IT is believed that the English and Japan walnuts will flourish wherever the peach tree does. This ought to be a profitable business for our farmers in many sections. We import several hunderd thousand dollars' worth of these nuts every year. The experiment is being made of grafting upon hickory,

THE "increased - weight-of- butter frauds are still working the mails. Have absolutely nothing to do with them.

THE RISE IN WHEAT.

The wheat market has for some weeks been active, with advancing prices. It is reasonably certain that the wheat crop will not be larger than a year ago, and that was considerably less than the average in recent years. The visible supply is 6,000,000 bushels smaller than it was a year ago, and its decrease last week was 3,139,000 bushels. The for eign demand continues good, though prices are up 16 to 18 cents higher than they were two months ago.

Wheat closed in Chicago May 28 at 811, and there is talk of its going to 90 cents or \$1. We wish that we could be more hopeful of this. But we are fearwhatever on the wheat market. We must bring ourselves to looking upon other products as "sure money-getters," and regard wheat as merely a by-

Unfortunately but little of the advance in the price of wheat will go into the poekets of the producers. The hard times, the short corn crop and the low prices of other products compelled the early marketing of wheat in an unusual degree, and comparatively few farmers have any wheat to sell now.

DENMARK is an illustration of what we desire to see in this country. The little Kingdom has only 14,500 square miles of territory, or about half that of South Carolina. It is not very fertile soil either. The Danes determined to make the most of their scanty resources. They found that dairying promised best, and now they are sending abroad every year \$25,000,000 worth of dairy products, and have trebled the amount in 10 years. They also found that pigraising went with dairying, and their pork products are the finest and command the best prices in Europe. They have no time to waste talking over the National finances. They are too busy studying the latest developments in the bacteriology of butter and cheese formations, and how to get the most fat on a pig by combinations with skim milk.

NEW HAMPSHIRE statistics do not bear out the oft-repeated assertion that than of any other vocation. There are 81 male patients in the New Hampshire Asylum for the Insane, of whom but 18 hail from the farm. This is but 22 per cent., while the farmers form 31.2 per cent. of the population of the State. These statistics, however, were made up before the 53d Congress got in its deadly work on the farmers.

"SAMANTHA AT SARATOGA."

This book has had much the largest sale of any humorous book ever issued in this country. More than 100,000 copies have been sold at \$2.50 each. It is by Marietta Holley, author of "Samanperity and bankruptcy for millions of tha at the Centennial," "My Opinions and Betsey Bobbett's," "My Wayward Pardner," etc. It is simply brimming over with genuine, contagious fun, mixed with golden grains of common sense. It is a narrative of the experiences of a middle-aged farmer and his wife at the home of giddy fashion and display, and is told in the quaint dialect of the farms and fields. A new and smaller edition has been issued at a price which places this delightful book within the reach of all. It will bring no end of pure, bubbling pleasure to every member of the family. We will send the book, which is handsomely bound in cloth, postpaid to any address, for a club of three subscribers to THE AMERICAN FARMER. Or, we will send it and THE AMERICAN any present subscriber we will send it on receipt of 50 cents.

THE Italians buy about 4,000,000 bushels of wheat a year from Russia to manufacture into 90,000,000 pounds of macaroni, of which 18,000,000 pounds are exported to this country. It would macaroni in this country.

WE WANT AGENTS

in every neighborhood to solicit subscriptions for THE AMERICAN FARMER. To these we will pay good commissions,

"LUBINISM."

A subscriber in Ohio sends us Mr. Lubin's plan for raising the price of wheat by making an export bounty of one cent a bushel, and asks:

"Would protection like this benefit us? If not, why not? Please give us your opinion in next issue of THE AMERICAN FARMER."

The idea seems to us utterly impracticable. The impracticability lies in the condition of the public mind. The thought of an export bounty on any agricultural product has never been entertained by the American people, and it seems to us that it would require an immense amount of labor and ful that too much of the recent rise is stronger facts than now present themspeculative, and that the high prices will selves to get them to seriously entertain bring into the markets of the world un- it. Of course, if the wheat-growers expectedly large quantities of wheat were to ask for such a bounty the cottonfrom Russia, Argentine, Rumania, India, growers would do the same, and the beef and other countries which have been and pork-raisers, the butter and cheesesharply competing with us. The quan- makers, the fruit-raisers, etc. Next the tity of wheat needed by the world is so Standard Oil Company would probably limited, and there are so many countries make a similar request. The price of from which it can be obtained, that we kerosene has gone down rapidly in the cannot be safe in placing any reliance last few years, and the Standard Oil Company could truthfully say that it is not making nearly as big a percentage of profit as formerly.

> Much the better way is the plan THE AMERICAN FARMER has constantly urged. That is, stop altogether growing wheat for export. Russia, Argentine and other countries have completely knocked the bottom out of the foreign wheat business, and there never will be even a decent profit in it for us again. We have had our day of big profits on wheat, and, like good business men, should recognize that fact, and turn our attention to something that promises better. Let us go to work raising the things that other people sell us at a profit, instead of clinging stubbornly to the idea of selling them the grain that they can buy elsewhere cheaper than we can afford to raise it for them. This is the common sense; of the situation. When we could raise wheat at a cost of 35 or 40 cents a bushel, and sell it to Europe at from \$1.50 to \$2, there was big money in the business. But when Europe can buy all the wheat she wants at 50 cents a bushel, delivered, it is time for us to let the folks that want to raise wheat at that price have the whole business. We can do better with our labor

OF course, Free Trade destroys all the trusts, monopolies, etc. We have had that stuff dinned into us incessantly. Many years ago it was used to get all smaller dealers who were competing with them, got control of the foreign leather business, and now have put up the prices 20 per cent.

THE Louisiana rice planters are feeling an increasing disgust at the operations of the Wilson Tariff. The reduction of the duty has greatly increased the importations of Asiatic rice, and reduced the price until much of the rice sold in New Orleans during the last few months went as low as \$1 to \$1.10 a barrel. The present New Orleans quotations range from \$1.50 to \$3.25 per sack of rough rice, where last year the range was from \$2.25 to \$4.

SOUTH CAROLINIANS seem disposed to take an interest in dairying. They certainly should. No section of the country has finer facilities for making the highest grade of butter and cheese.

TALK about having money to burn. The Cubans are burning molasses, and the Louisiana sugar-growers are considering the practicability of doing the same thing. The high heat developed makes the sirup a cheap fuel. They are also thinking of the more general use of molasses as stock feedu This is no experiment. English farmers use large quantities of molasses as forage.

THEY make big reports of the profits of cranberry raising out in Washington. An average good bog will raise 240 bushels of berries per acre, selling for \$3 a bushel, or \$740 gross, and leaving a net profit of \$300.

THE Wisconsin Dairymen's Association is after some rascally dealers in Chicago with a sharp stick. These have been stamping all sorts of fraud seem to be an excellent idea to make the cheese, "Wisconsin Full Cream," to the great injury of the fair name of the Wisconsin product. The Association has set apart a liberal sum to protect its

THE peach crop of New Mexico, numerically, will be light, but in quantity or give liberal premiums. Write for and quality it promises to be nearly up to the average.

seeding grass and clover, or either, as the straw is stiffer than that of any other grain, and does not lie close on the young grass when it lodges by stress of weather, as wheat or oats do. Summer seeding may be done with millet or buckwheat, or alone, at any time now if the seed is properly covered by a light harrowing, so that the young, tender plants are not killed by dry weather soon after the seeding. By covering the seed the roots get a good, safe hold on the soil and are able to withstand a few days, or even weeks, of dry weather, while surface sowing leaves the roots on the top of the soil, where a single day of hot sun or dry wind will utterly

PERSONAL.

John Gould, the well-known dairyman, and still retains the Yankee twang in his He is 51 years old, and lives on his odel farm of 120 acres, near Aurora Station, stables for cows, abundance of pure water,

D. W. Williams, a farmer of Floyd County, Va., was fleeced out of \$300 by green goods nen at Pocahontas, Va., May 25. He exected to get \$1,000 in "notes that could not e told from the genuine."

While plowing on an island about four on found a rusty tin box containing \$2,700. diamond ring, and a gold watch ground had just been cleared, and the box was found under a log turned up by the plough. Jackson says the paper currency is n good condition, and is undoubtedly genu-ne, and that the dates on the silver coins show that the box was buried over a quarter of a century ago.

E. C. Pechin, a distinguished mining engineer, has purchased the Harnsbrough farm, near Buchanan, Va., for \$5,000 and will re-

Hon. H. C. Burleigh died May 17, at his home in Vassalboro, aged 69. The last Legis-lature re-elected Mr. Burleigh State Assessor nost extensive breeders of blood cattle in New England. In the world's competition at the Centennial his stock won five first prizes, including first on herds.

Col. James Young, of Middletown, Pa., is one of the men whose highest ambition is to be a good farmer. His ability and character have frequently led his neighbors to solicit him to take office, but he has declined everything except appointment to the State Board of Agriculture, of which he has been a mem-ber continuously since its organization in 1877. He began 20 years ago to purchase the 15 contiguous farms, all under the highest cultivation, and well improved with buildings, and the latest machinery and ap-He fattens about 300 steers a year and has some of the finest Jersey cattle in the State. His farms are the show places of the neighborhood, and have been visited by great numbers of distinguished men. He began life with absolutely nothing but a clear brain and strong hands.

NEW PUBLICATIONS.

AMERICAN SHEPHERD'S YEAR BOOK.
Published by Frank P. Bennett, 185 Franklin
Ave., Boston, Mass. Price \$1.

This is claimed to be the most perfect nantial of American sheep husbandry ever sucd. It contains illustrated descriptions of the various breeds of sheep, directories of members of the leading sheep breeders' as sociations, and lists of wool growers, with numbers of sheep owned in various sections of the United States, numbers of sheep in all th countries of the world, comparisons of the tariff of 1894 with the tariffs of previous years, tariff taken off hides. The leather men and much other information for the use of manufacturers, and others concerned in the great wool industry of the United States, from he fleece to the finished fabric.

> HOW TO MAKE MONEY ALTHOUGH A WOMAN, By Irene W. Hartt. Published by WOMAN. By Irene W. Hartt. Published by J. S. Ogilvie Publishing Company, New York. Price 25 cents.

> This is a new work by the author of "How of Get Married Although a Woman," which as attracted much attention. \$S OR ? By W. B. Mitchell. Published by the Dollars or What Publishing Co., Chattanooga,

This is an excellent reply to the absurdities and fallacies of "Coin's Financial School."

SOUVENIR FOR 1894. "Leading American Exchanges." Published by Clapp & Co., bank ers and brokers, Mills Building, N. Y. Price 33.

This is a work involving not only grea bility and an intimate knowledge of Na ional, State, Municipal and business finances but much work and expense. It is a vas connected with the business of the country and is invaluable to anyone who desires to be thoroughly posted. The book is superbly illustrated, and contains over 400 pages, in which every line is of value. It contains Clapp & Co's. weekly market letters for 1894 in which the markets of this country are exhaustively discussed, and the compiler has also brought into convenient form for ready reference tables of United States pro duction and prices, and statistics as to ship ping, banks, bonds, cereals, exchanges, ex-ports, failures, interest, etc. The book is il-lustrated with numerous pictures, portraits,

The Sixth Annual Report of the Missour Botanical Garden is a rarely interesting volume. It has scientific papers on the North American Species of the Sagittaria and Lophotocarpus, on the Leitneria Floridana, the Yucca, and several other botanical subjects of importance. All these are profusely and finely illustrated. The paper of Dr. Wm. Trelease on the Leitneria is particularly in teresting. He discovered a small tree growing in the lowlands of southeast Missouri, which has the lightest known wood, its specific gravity being only 0.207, or about half that of the willows and poplars. Common cork has a specific gravity of 0.240, or about one-sixth more than the Leitneria. He suggests 'Missouri cork-wood' for the tree, and thinks that it can be made very useful in the arts. The only use now made is for floats for fishing nets. The book is edited Dr. Wm. Director of the Botanical Garden and reflects great credit upon the institution The Monthly Illustrator for May is a feast

of good things, pictorial and literary. The best writers and artists in the country contribute to it, and they make a number of un usual interest. The issue opens with the Good Old Colonial Days," by Edward King; illustrated by Wadsworth Thompson. Feast Day in a Mexican Village," Deming, is particularly good. "Jean Deming, is continued; "A Ramble in Old Valjean" is continued; "A Ramble in Old Venice" is delightful; Ik Marvel's "Glimpses of Dream-Life" is charmingly illustrated with original drawings by Corwin Knapp

at 94 Fifth avenue, New York. Price 30 New information regarding that most discouraging period in Gen. Grant's career, be-tween the breaking out of the war and his appointment to a Brigadiership by President

Linson. These are only a small part of the many good things of equal merit. Published

THERE is no better crop than rye for Departure from Normal Precipitation for Week Ending May 27, 1895.



Lincoln, showing that his services were offered to four States and declined, and that he began his war service as the humblest of clerks in a State Adjutant-General's office, will be published in the June number of McCluye's Magazine. The information is derived mainly om a fellow-townsman of Grant's, who throughout this time was his almost daily

Wm. Parry, Pomona Nurseries, Parry, N. has published a neat 56-page catalog,

which he will send free upon application. Mr. F. D. Coburn, the very able Secretary of the Kansas State Board of Agriculture, adds much to his reputation by the "Ninth Biennial Report" of the Board, which has just appeared from the press of the Hamilton Printing Company, of Topeka. It has 550 large pages, filled with agricultural statistics of the State and practical information of great elpfulness to farmers everywhere. Of par. icular interest and value are the portions de_ voted to alfalfa, irrigation and fruit-growing

Twelfth Annual Report of the Board of Control of the Massachusetts Agricultural Station, Prof. C. A. Goessman, Director, Amherst,

Harper's Round Table, as Harper's Young cople is henceforth to be called, announces for publication during the Summer the following special features: "Heroes of America," a series of six articles by Hon. Theodore Roosevelt; serial stories by Ellen Douglas Deland and Capt. Charles King; "Sports of English Schools," by Caspar W. Whitney; and "Great Men's Sons" (articles on the sons of Alexander Cromwell and Napoleon), by Elbridge S.

The Cosmopolitan for May is a splendid 'The Pleasant Occupation of Tendng Bees" is an article that every farmer and farmer's wife should read. It is full of practical instruction, and beautifully illustrated. Other articles are: "Samarkand and Bo-"Sixteen Hundred Miles of Mountain My Goddaughter," "Ceremonial Railways, Dishes of England," "Saleswomen in Great ally low, some stations reporting the Another Dog," etc. All these are illustrated by the best artists in the country. Published at Irvington, N. Y. Price 15 cents, or \$1.50 a year.

W. & B. Douglas, manufacturers of spraying pumps, knapsack and garden engines, etc., Middletown, Conn., have gotten out their catalog and price list for 1895. It contains valuable information, including the standard spraying formulas.

Condensed Report of the Proceedings of the Texas Irrigation Commission, held at San Antonio, Dec. 4-8, 1894. T. J. Skaggs, Beeville. Tex.

The Brownic Song Book is a delightful conceit of S. G. Pratt, and is published in a very taking shape by Laird & Lee, Chicago. It has a number of charming songs with music, and all illustrated by captivating illustrations of the fascinating little Brownies. Price 50

Horticulture of the State of Washington. A. Tonneson, Secretary, Olympia, Wash, "Wheelers" is the latest edition of Puck's Library," and is filled with funny

pictures and stories about bicycling and cyclers. Published by Puck, New York. Catalog of machines and seed, issued by the

Maryland Agricultural Co., 32 West Pratt street, Baltimore, Md. Catalog of Milne Manufacturing Co.

nanufacturers of grub and stump machines, Monmouth, Ill. Catalog of choice roses, hardy trees, shrubs

plants and fruit, issued by the Andorr Nurseries, Chestnut Hill, Philadelphia, Pa. Descriptive catalog of the William H. doon Co., nurserymen, horticulturists and andscape architects, Glenwood Nurseries, Morrisville, Pa.

Descriptive catalog of novelties and specialissued by the Wm. H. Moon Co., Glenwood Nurseries, Morrisville, Pa.

Illustrated and descriptive catalog of the United States standard spray pumps, P. C. Lewis Manufacturing Co., Catskill, N. Y. Albert Lynch, whose work is becoming much more generally known to Americans through his drawings in Scribner's Magazine,

and his cover designs for The Ladies Home Journal, is a Peruvian by birth, but of English parentage. He is only 33 years of age and of extremely retiring disposition. He is unmarried and lives in Paris. The youn artist commands the highest prices for his his smallest water-color paintings readily selling for \$600 to \$900 each. he received the Salon's first prize for his beau-tiful panel of "Spring," showing a single This picture Won the admiration of the French art critics and the public to such an unusual degree that the painting was sold for a fabulous sum to a private Paris buyer. Recently The Ladies' Home Journal acquired all publication rights to this painting, and it will serve as one of the cover designs for that magazine.

Flowers, birds, sunshine and the open air are conspicuous both in the subject matter and pictures of Frank Leslie's Popular Monthly for May. The number opens with a beautifully illustrated article entitled "The Busi ness of Blossoms," by Martha McCulloch Williams, showing that this country maintains greenhouses, hot houses, and floral establishments whose aggregate value is over forty million dollars. Nellie Hart Woodworth fo lows with some delightful "Stray Leaver from the Book of Nature," illustrated by "Stray Leaves Joseph Becker. "A Modern May Day," Mrs. M. E. Leicester Addis, is full of the quaint legendry of this vernal festival, and gives a number of photographs of May queens rural scenes of Old England. Published at New York. Price 25 cents.
The Northern Pacific Railroad—Cha.les S.

General Passenger and Ticket Agent, St. Paul, Minn, -has gotten out a beautiful little pamphlet, entitled "Sketches in Wonder and." It is a fine description of the super! scenery along the route, with specially chapters on the Yellowstone Park and Mount Rainier. Everything is finely illustrated with half-tone reproductions of photographs A superb map of Yellowstone Park goes with Sent on receipt of six cents in stamps by

Park and Cemetery is the name of a new magazine of much merit, devoted to landscap gardening. Published at 334 Dearborn St., Chicago. Price \$1 a year. WASHINGTON, D. C., May 28, 1895. TEMPERATURE

Throughout the United States, excent over a comparatively limited area estending from the Dakotas eastward over the northern portions of Minnesota, Wisconsin, and Michigan, and over pertions of the New England coast, when the average daily temperature slightly exceeded the normal, the week ending May 27 has been coller usual. The week has been do cool on the Pacific coast and the out the central and southern to of the country east of the Mountains.

The greatest deficiency in temperature occurred over the northern portion of the cotton region, where it generally ranged from 6° to 10° per day below normal, and from the middle and south Atlantic coasts westward to the southeastern Rocky Mountain slope, except along the Gulf coast, the daily deficiency exceeded 6°. On the Pacific coast daily temperature deficiency generally ranged from 3° to 8° per day, bein greatest over northern California and the eastern portions of Oregon and Washington.

The 21st (Tuesday) was the day owest temperature in the central va leys and Lake region, and 22d and 23d (Wednesday and Thursday) were day of lowest temperature in the Gulf State and on the Atlantic Coast, the minimum temperature on the morning of the 21: in the Lake region and those of the 22 in Middle Atlantic States being unus lowest yet recorded during the las decade of May.

While the week was cool and th average temperature much below the normal, the 27th (Monday) was an ex ceptionally warm day over eastern Colo rado, Kansas, Nebraska, South Dakota and Iowa, the maximum temperature records for last decade of May being broken at some stations in the States named.

Except over the lower Lake region and in the Upper Missouri Valley, the southern limit of freezing temperature for the week ending the 27th is considerably farther north than for the two weeks preceding, but in the districts named it is as far south as in either of the two preceding weeks and is what farther south in the Missouri Valley, reaching northwestern Iowa.

PRECIPITATION.

Generally in the Gulf States and on the Atlantic coast south of New English land the rainfall of the week has exceeded the average, being very heavy along the immediate Gulf coast from western Florida to southeastern Louisiana, and in southern Texas, where the actual fall ranged from two to six inches. There was also more than the usua amount of rain over extreme northern portions of New York and Vermont, New Mexico, western Texas, Idaho, and on the Pacific coast north of San Francisco, the fall being decidedly heavy in eastern Washington and along the coast northward of California. Two inches of rain fell at El Paso, Tex., on the 21st, which is nearly 20 per cent. of the yearly average for that place. From the Upper Ohio Valley westward over the upper Mississippi and lower Missouri valleys the rainfall of the week was decidedly below the average, and over a considerable portion of this area the rainfall was inappreciable.

GENERAL REMARKS. Upon the whole, the weather conditions of the week have been unfavorable. Farm work has been retarded in the Gulf, Middle and South Atlantic States from excessive rains, while crops generally need rain from the Ohio Valley westward. Complaint as to the unfavorable effects of the unseasonably low temperature upon crops is general throughout the middle, central, and

outhern portions of the country. Cotton has suffered seriously, call ally on sandy soil, and is reported as dying in portions of the Carolinas, Geor gia, Mississippi, and Arkansas, and complaints of injury from lice are reported from Louisiana and Mississippi. reports cotton late but healthy.

Replanting of corn has been during the week, owing to effects of recent frosts. In Inc. of the crop had to be replante sas reports corn doing well, and it braska the early planted is in go dition, but rain is needed to that recently planted. In the States the general condition of corn is good, and in some sections cultivation is

Winter wheat is reported as in good condition in northern Illinois, last in poor condition in the central and southern portions of the State. The gondition of wheat has declined ray Missouri, owing to drouth and In Indiana some wheat has been ple and planted in corn, and the cre sustained further injury from frost in

GARDEN.

Rotate your cabbage beds, not planting oftener than once in three years on the same ground. This will fool the

right factor of a child's education, drouth. ichout it the child will grow up in lands from seeds and cuttings.

Intected material will be furas far as possible, to all Illinois to apply for it to Prof. Forbes, order applications are re-Directions will be sent with it. sor's address is Urbana. The syone is familiar with the comet of currant bushes, often erass, under fonces, and frewith entire neglect. bushes, which have a mass of brush, should be and old, stanted wood prened priching and mellow cultivaoften still better, the be taken up, divided, The great point is to low, and continued culti-

It is now quite possible to prolong the for even peas, which hitherto has sible on account of the prevaof the tatal mildew that attacks the tines soon after Midsummer, when the seess of heat weakens the plants. As the spraying with the copper solution revents this disease, its application will able the gardener to grow late crops asily as the early ones. Indeed, this device is as indispensable in garden is it is in the orehard or the

We have also friends among insects, and it is well to bear in mind that they | Wis. can do much good for us. The so-called e-wing insects are nearly all friendly. ey live on other insects, and do not eat any part of the plant. If a few can arned loose in a greenhouse they troy all insects other than those of their own class. In this class are cluded the ant-lions, aphis-lions, and dragon-flies. For every one of these we kill we must expect a dozen enemies to spring into existence that must be destroyed by spraying.

In the outskirts of every city and village are many places having a small garden attached, which the owner would care for if he could only get the land plowed. A man with smart team and plow can plow and fit these garden pieces for planting in an hour or two, doing ugh in a day so as to make a profitar and a half for each garden. work can be made profitable for parties, as the product of a small on plot may be made worth several

The Maine Experiment Station finds that it is an advantage to bed cabbage month of August. in pots rather than boxes. The btained by reducing the amount e at the time of setting in the re almost negative. The results casons' experiments indicated the advantage is to be derived d to prune the foliage of the new ones. kely to become drawn and crowded before planting out.

of the most important points in carly tomatoes is to have the strong and as far advanced as before transplanting them into a ground. The plants should be early in a greenhouse or hotbed. two inches high they should be in two-inch earthen pots, and arge enough repotted into fourols, and, if necessary, transferred again to six-inch pots. By this time already set fruit, and may be transplanted into the open ground. They will ripen a little earlier if all the side branches are pruned off and the vine trained to a stake, but it is doubtful if trellis of some kind to keep the vines off of the early blossoms should be removed if eary fruit is wanted.

The Gooseberry.

gooseberry is one of the best of small fruits, both for use for pies or preterves, or for eating when ripe, when it is sweetest of all. The unfortuiction of it to mildew is its weak point, but now that we have a remedy for these fungoid diseases of plants in the this fruit with perfect success. The Engand have popular exhibitions of it all over the country. Their cooler climate, be planted in every farm garden.

Thayer's Berry Bulletin for June, 1895. Berry bushes should be thoroughly mulched-

First, by cultivating and hoeing the surface soil; followed at once by an application of green clover, coarse manure, straw or some other coarse litter.

weeds and rich in plant food.

even ounces in 22 gallons of water, to- hill four or five inches deep, leaving few degrees below freezing, and has never last year, we imported 3,002,578 bushels gether with the destruction of all about three feet between the rows for been known to be over four degrees zero of potatoes, valued at \$1,277,194, which farmers and dairymen, especially those seel plants and rotation of crops, cultivation during the Summer. This in any year. the remedies recommended by the treatment retains moisture near the surlaware Station for tomato anthracnose. face, prevents the growth of weeds, keeps the difference to be found in only a few ing and harvesting the potato. But I soil, if well drained, sand seems to be its It is the duty of parents to instruct the berries clean, enriches the soil and is miles' travel. I left Umpqua Valley think when we invent machinery that edildren about planting. It is an the only practical safeguard against on Sept. 4. The thermometer was

When new canes of the blackberry pince of the pleasures and delights and raspberry are 15 inches high, nip damp and cold. The eastern part of the leaven off about two inches of the tip. This will of Oregon has a drier climate than the It six years can be trained to check the upward growth of the plant, western, because the Cascade Mount- toes. But with the inventive genius of fields, and I must say we are more than bugs are very numerous in greatly increase the bearing surface of clouds from the Pacific; the consequence | Congress I believe there will be plenty of Illinois. State Entomolo- the canes. All weak canes should be is the people are required to irrigate in of cheap labor and machinery, so we will s has prepared a bulletin on cut out. This treatment gives a low, order to produce a crop. stocky, well-formed bush, not liable to damage by severe storms.

ing back.

fourth or one-third of the fruit stems.

This is also true of the plum, grape and many other fruits. New strawberry beds should not be allowed to bear fruit the first season.

Pick off all buds and blossoms. ing, and if allowed to grow will greatly zards, cyclones, and hailstorms are un- work for me to pull them, although they soiling crop. should never be used.

The best preventive of disease among berry plants is clean cultivation and severe pruning.

neglecting its use:

One ounce of white hellebore dissolved eastern and western Oregon. in two gallons of water, applied with In the southern part of the State the ground good and deep; harrow while hay which, though rather coarse the sprinkler or brush broom, when worms first appear, will exterminate them. Two Umpqua River, Rogue River, and Cala- the soil fine and smooth, and when dry To test the feeding qualities of lucerne or possibly three applications may be pooia. The largest and most highly plank or roll it, then take your seed for horses, a neighboring farmer has fed necessary. Paris green is also used in cultivated part is the western part, drill and drill in rows three and a half nothing else during the past Winter, same manner .- M. A. THAYER, Sparta, which lies between the Cascade and feet apart. I usually mark out ground and they are coming out this Spring in

The Strawberry Crown Borer.

This is an indigenous insect, a beetle belonging to the family of curculios. The beetle (as shown in figure) appears in June or July and deposits an egg about the crown of the plant, from which, when hatched, the larva burrows downward, eating into the substance of the crown. Here it remains boring and



able day's work for himself and team excavating and working in the thick thout charging more than a dollar or bulbous roots until it attains full growth, figure, where it is much magnified. It is about one-fifth of an inch long, white, with a horny, yellow head. It changes to a pupa within the root, from which the

The beetle shown at b and c in the figure is about one-sixth of an inch long. of a brown color, with several more or less distinct dark.brown spots, and is marked with lines and dots.

It appears this insect has been workpractice. Holding plants in ing in several strawberry beds in Pierce n account of severe weather by County this season. The plants infested closely heading them back was found to with this larva at first appear to be wiltrender them earlier and slightly larger ing or drying up, and are sure to perish. ers left untreated as checks. It Old beds are more liable to injury than

REMEDY.

up and burn the plants after the fruiting season is over and before the larva has time to pass through its transformation and escape as a beetle.

Culture of the Squash.

All kinds of the squash tribe delight in a rich soil, and need ample room to run their trailing vines in. Some growers have used trellises for the vines to run on with success, but the expense, they should be large plants, which have of course, confines this method to small gardens. For field culture the hills should be seven feet apart, and three plants are grown in a hill. As the vines run, close pinching-in of the main vine is necessary, as the fruits are borne on much is gained by the pruning. A the side shoots, and the ends of these should be pinched as soon as one fruit the ground is always an advantage. is set on each. For large fruits only one plant should be grown in a hill, and only one fruit on this, although the side shoots should be left, as these contribute greatly to the vigor of the whole plant and the enlargement of the single fruit. Forty tons to an acre have been grown

of both squash and pumpkins.

Fertilizer for the Garden. An excellent fertilizer for the garden is a mixture of wood ashes and nitrate various spraying mixtures, we may grow of soda, in the proportion of five pounds of the nitrate to one bushel of ashes. make a special culture of this fruit, A hundred pounds of it will contain 10 pounds of potash, three of phosphoric acid, and 2.112 of nitrogen, about the meyer, is more favorable to it than our same as a fertilizer costing \$30 a ton. Namer one, but this extra warmth, when A large quantity of excellent manure it is not conducive to disease, gives far may be made by gathering forest leaves greater sweetness and better flavor to the and putting them in a pit near the han is the case in the cooler clim- house, adding the ashes to the heap, Hence, there is now no reason why with all the waste of the house, solid ould not grow this fruit with as and liquid, the wash water especially, much success as we do its near relative, and adding earth to deodorize the mass The two newest kinds, the | When the pit is filled the adjoining soil stry and the Champion, have been is turned over the mass and the whole

for future use.

OREGON LETTER.

Advantages Offered by That State to

Settlers. EDITOR AMERICAN FARMER: This section of the United States offers many Clover is best, being free from noxious be found here from 24 degrees below of us have been buyers instead of prozero to the same above. This Winter ducers in the last few years. Mulch should be placed around each the thermometer has only been down a

It has peculiarities, among which is

The climate of Umpqua Valley, which is situated in western Oregon, The new growth of grapes should also is made cooler in Summer and milder in ways raised what we wanted to eat, and corn. plenty of it. The surface of the State The worm on currants and gooseberries range extend north and south the entire when you are finishing your oats go over time it must not be allowed to become will appear on the lower leaves soon after length of the State at a distance of 120 | the beet patch twice with harrow, or too dry, as the leaves, which are the the fruit forms. The remedy for this miles from the coast, among which are better yet, disk shallow. When you most nutritious part, become brittle and pest is so simple there is no cause for found elk, deer, antelope, bear, panther, harrow your corn ground, go over it drop off. But if bunched after lying in

> most marked ridges are known as the the soil is fresh and moist, so as to get first few cuttings, is relished by all stock. Coast range. There are numerous with planter, letting runners go in grand condition. He has placed good coast valleys opening toward the ground the same as when planting. Pacific. I think the most important When plants are fair size and you have he says they prefer the lucerne every one is the Umpqua. The soil is rich, gone over them with cultivator (shallow time. We have cut ours three times in black sandy loam, and is very fertile, cultivation preferred) thin them out with yielding in abundance all the products the hoe to nine inches apart, then tend hard to get favorable weather for curing of the temperate zone; such as apples, them same as corn! pears, peaches, cherries, apricots, plums, large quantities.

Umpqua Valley produced this year some Greene Co., Iowa. 15 or 20 car loads of dried prunes, and next Fall expect to ship 50. Prime land is selling now from \$20 to \$100

Future Meadows and Pastures.

The effect of drouth upon our cereal crops can be greatly lessened by careful and thoughtful cultivation, but this canectle escapes, generally during the not be done with our meadows and pastures. Our almost empty cribs and bins the unparalleled drouth, have well nigh | crop. unbalanced our usual conservative tendency in mapping out our work for the coming crop.

We are supposed by some persons at this time to be confronted with a condition differing materially from our former usual crop conditions; viz., that the last year is simply a forerunner of a series of years noted chiefly for an absence of rainfall. I do not believe in this theory, notwithstanding men of acknowledged The only remedy suggested is to dig ability as writers at least have given to produce 50 tons of granulated sugar decayed vegetable matters which supply reasons satisfactory to their minds that such a condition is inevitable.

We have been told that we must reverse our modern drainage system; instead of tiling out our low lands we must build ponds or reservoirs upon our farms, to be utilized as feeders to nature's demands, notwithstanding the fact that in all the years prior to 1894, since our drainage system has been introduced, our productive capacity has increased materially on account of such system. I believe that our tiling system is yet only in its infancy, and that we have not robbed nature of her storehouse of moisture to the extent of bringing about a series of droughty years. If I did not believe thus I could have nothing to say in regard to "our future meadows and pastures."

So I would say let us hold to the mixtures of timothy and red clover for meadows, and the mixture of blue grass and white clover for pastures. I would emphasize the importance of red clover as the ingredient in any mixture sown timothy growing with it; besides, it is a nifera). great fertilizer. Our soil seems to be better adapted to the growth of the culti-

vated grasses as its tillage increases. Therefore I would say, barring all .1894, let us adhere to the old reliable grasses of the past.—Amos Johnson,

Jefferson, Iowa. There are only three really good varieties of the wild strawberry, and one larged plant at Monmouth, Ill., where they of these is the parent of the much-prized are able to promptly fill the rapidly increasing cultivated variety. The wild berry is seldom or never seen in this market, but in Canada, where labor is cheap and the berries are abundant, they are picked by dexcellent in every way and should removed where it is to be used or stored country folks and sold in the cities and

Root Oropa on the Farm.

The most important of the root crops is the potato, and the one that is the most profitable and most used for food: a crop that the farmers of Greene County

can raise without much extra trouble advantages to settlers. Temperature can above our standard crops. Yet many I see by Secretary Morton's report

not like to dirty his hands with cultivat- nature, for, although it does well on any standing at 79 degrees, but as soon as I to use and to sparen I will say that I from 15 to 20 feet. A few years ago, reached the coast the atmosphere was agree with our Democratic friend that upon the high recommendation of a cause several new branches to grow and ains condense the moisture of the rain the American and the present free trade satisfied with the results.

carrots, rutabagas and stock beets. I of stock pastured on it, and they all commenced a few years ago to raise these relish it, thrive and grow fat. Our be shortened from time to time by pinch- Winter by the Japan current, which three varieties for feeding purposes. I calves came right through fly-time on it flows southward along the coast. We soon dropped the rutabagas, on account last year, and came into the stable in A well-cultivated blackberry bush have scarcely any fog at all, except, in of the fly that destroys them. They do the Fall in grand order. The only will usually set more fruit than it can the Fall of the year, we have a little on not yield as well as the beets, but are points to watch in pasturing is to see sent to any who ask for it.

The quality and size of berry may be greatly improved without re
mature. The quality and size of berry may be greatly improved without re
mature. The mountain-tops. The Summers are cool and delightful. One can sleep well easily fed, as they have to be cut. The ducing quantity, by trimming off one- under three or four covers any Summer beets give a greater yield. I have raised on the first time. In sections where night. We had no snow to speak of the 24 50-bushel wagon-boxes full from soiling is practiced it will be found in past Winter. The pastures and fields what was estimated an acre of ground, valuable, coming in as it does so far in were never hidden from view, where and found them to be an excellent food advance of peas and oats or the common hundreds of horses and cattle wintered for hogs, pigs, calves and cows. I fed clovers. Dairymen in these parts begin without feed other than wild grass. No them raw, tops and all. Carrots are far cutting it for this purpose about the dark caverns in the earth are necessary richer and better for horses, and other first of June. We would highly recom-The maturity of seed is very exhaust- to the safety of its inhabitants. Bliz- stock will eat them; but it is too much mend it to those wishing a good early reduce vigor of new plants. For this known, and the memory of man run- are a paying crop. There is about twice reason strawberry plants from old beds neth not to the time when there has the labor required to raise one acre of when out in full blossom, which is genbeen a failure of crops. We have almangels as is required to raise one acre of early about a week in advance of red

toes; all the small fruits are produced in hogs and pigs, and I have found nothing ordinary clover mill, and from three better in their season than the red acres we thrashed 13 bushels of first-I gathered evergreen blackberries off mangel wurzel beet. They are good my father's vine Xmas. Apples hung on keepers if not kept, too warm, but will dollars per bushel. A crop that will ment by providing for the destruction of car the trees this Winter until January. not stand any freezing.-Mr. Moss, turn off two tons of hay and \$25

A Three-Year Rotation.

A short rotation in which potatoes per acre. When the trees are five or are not desired may be made by subsix years old they yield a profit of 8200 stituting corn for this crop, and oats an acre and over. You can gather wild for the wheat. Corn is too late a crop flowers any time in the Winter.—W. C. for wheat to follow, so a spring-sown SANDERSON, Riddles, Douglas County, grain must go after it, and, as oats, when are considerably more profitable than wheat, and grass or oats, as with wheat, the three crops, clover, corn, and oats, will be quite as convenient, but not so profitable as and wholly empty mows, as the result of of the higher value of the potato

Germans to Raise Beet Sugar Here. German capitalists have decided,

according to special reports to the Manufactures' Record, to engage in the manuan extensive scale. The Kentucky organized at Bowling Green in that State, with a capital of \$1,000,000. It fertility of course has in past ages proed in the neighborhood by farmers.

The Field.

The California Experiment Station reports that Polygonum sachalinense " is a coarse plant and is not advocated as a substitute for well-known forage plants where the latter are satisfactory. For dry lands scant of useful growth the plant is commended for trial. It has a perennial root which withstands both drouth and freezing of the ground."

The flat pea (Lathyrus sylvestris), from reports received from growers, appears to be much valued in some parts of California. The following forage plants have been found the most satisfactory for dry soil, but are not offered as substitutes for better plants on naturally moist land: Tall oat grass (Arrhenatherum avenaceum), Schrader's brome grass (Bromus unioloides), Hungarian brome grass (B. inermis), Japanese wheat grass (Agrogyrum japonieum), many-flowered for meadows. Red clover seems to be millet grass (Milium multiflorum), hairyperfectly at home here, and in addition flowered paspalum (Paspalum dilatacontributes to a vigorous growth of the | tum), and Texas blue grass (Poa arach-

A Worthy Firm.

Ingenuity, coupled with enterprise has made the firm of Jas. Milne & Son, patentees thought of a repetition of the failure of and manufacturers of grub and stump machines, now at Monmouth, Ill., the largest establishment of the kind in the world. They have made it possible for farmers to clear their land rapidly and with trivial expense. Messrs. Milne & Son have just re-moved from Scotch Grove, Iowa, into an ennumber of orders. Milne Bros. have also re-moved their immense Shetland Pony business, which includes a large number of the finest of these little animals, to the latter city. We recommend that our readers write Messrs. Milne & Son for their interesting catalogue which fully describes their grub and stump

ALFALFA IN CANADA.

It Does Very Well Even that Far North.

A Canadian dairyman, Mr. W. A McGeachy, of Kent County, Ont., has been successful in growing alfalfa and writes as follows:

Lucerne (or alfalfa) is a forage plant that is rapidly gaining favor with implies that the American farmer does who have poor land of light, sandy natural home, and on such its roots have will do the work, we will raise enough been known to penetrate to a depth of the labor and cost of the same is the neighboring dairyman, we purchased worst feature about the raising of pota- enough lucerne to seed down one of our

As pasture it is excellent, affording abundant herbage during the driest of soon be able to raise our own potatoes. seasons, as the tests of the past two years I have had a little experience with have proved. We have had all kinds

When cut for hay it should be mown clover. Care must be taken to see that Find a good, rich piece of ground, as it is thoroughly cured before mowing has a few mountains. The Cascade clear of weeds as possible. In the Spring away, to prevent heating. At the same etc. It divides to two distinct divisions—
again in the same way as soon as you the sun several hours, and then allowed are through planting corn. Plow the one season, and then pastured it, as it is it in the Fall. Last year, after taking pears, peaches, cherries, apricots, plums, almonds, walnuts, peanuts, sweet potathat, we think, should commend itself to every farmer's most earnest consideration these hard times.

The Supply of Potash in the Soil.

Potash is an abundant element in all soils, but mostly in the clayey lands. These are derived from rocks that contain a large quantity of feldspar and clover may be seeded equally well with mica, in which there is from 10 to 15 per cent. of potash. These soils are easily recognized by the glistening particles in them as the sun shines on the surface, clover, potatoes, and wheat, on account and as these minerals slowly disintegrate and dissolve, the potash in them becomes available. The granite and gneiss rocks, made up of feldspar, mica, hornblende, and silica, are especially rich in potash derived are fertile and productive. To the character of soils by a mere cursory facture of beet sugar in this country on examination as to their content of pot- July 1. ash, and when potash is abundant it is Beet Sugar Company is now being a general indication that all other kinds every 24 hours. The beets will be rais-the needed nitrogen are also abundant, ing for inspection, to sign a written agree and this completes the full supply of all needed plant food for a long series of partment and tank all carcasses of cattle, received plant lood for a long series of sheep and swine, condemned, except for crops. Thus it is that very, often an trichinosis in pork. Of the 13,000,000 carapplication of nitrates or of phosphoric cases inspected during the last fiscal year acid to the soil is sufficient to produce 4,127 cattle, 466 sheep and 12,110 hogs were good crops. But when the potash is deficient in the soil it is generally the case that all the other most valuable elements are so too, as the soil is naturally less fertile. So that a good test in this way is to use some potash fertilizers and note the results.

Alsike and Crimsom Clover.

Alsike, said T. B. Terry at a recent Farmers' Institute, makes a nice hay and is much valued by the bee-men; but tended it is not so valuable a fertilizer as red country that demands and exacts such an exclover, because it does not shade the amination. It is purely a commercial—not an hygienic—requirement. Other countries ground so much. Crimson clover is another valuable plant. It is an annual and must be renewed each year. It should be sown as a catch-crop, and, Dr. Salmon frankly says that he doubts the growing to a late season, will get a good expediency and effectiveness of a general start in the Fall. It begins growing at an early day in Spring and will be large in Germany do not justify it. enough to be cut before June. It is most valuable when cut and fed direct the people of Germany than any other, and from the land; and it is also valuable to plow under, as it contains a large rigid inspection, eat much of their pork raw amount of nitrogen. If it will succeed, or under done, whereas the people of other it will be found valuable to bring land up in fertility.

To THE EDITOR—Please inform your readers that I have a positive remedy for the above named disease. By its timely use thousands of hopeless cases have been per-manently cured. I shall be glad to send two bottles of my remedy free to any of your readers who have consumption if they will send me their express and post office address.

T.A.Slocum, M.C., 183 Pearl St., New York.



DISEASED MEAT.

Secretary Morton Wanted Power to

Destroy It. Secretary of Agriculture Morton and Dr. almon, Chief of the Bureau of Animal Intack made on the effectiveness of the meat inspection now carried on under the act of 1890. The inspection provided for under the ernments to which our meet was exported, but the authority given the Secretary was in-sufficient, and Mr. Morton has tried in every way to induce Congress to cure the defects separated the healthy from the diseased meat, and prevented the export of the latter, the Secretary was not clothed with the power to compel the destruction of condemned meat, and this could be sold in the domestic mar kets. If the Legislatures of the States had class seed, which sold for five to six taken steps to co-operate with the Departcases condemned by the Federal Inspectors the inspection would have been rendered worth of seed per acre per annum is one effective. But this was not done, and the Secretary appealed to Congress. Last December, while the Agricultural appropriation bill was under consideration, he drew up an amendment to the inspection act, and urged Senator George and others to incorporate it in the bill. In his letter to Senator George he

said:
"At present, condemned animals, precluded from interstate or foreign trade, are put upon the market where the condemnation is made. When a swine carcass is found to be alive with trichina, it cannot be sold to go into another State nor for export. But it can be put upon the market where it killed."

CRITICISMS THAT ARE UNJUST.

The amendment the Secretary prepared empowered him to "cause all carcasses have been inspected, and for any hygienic or other reasons condemned, to be tanked, rendered or otherwise disposed of in a way that shall effectually prevent the sale of the same for human food, provided a penalty of \$1,000 and lime, and even- sandy lands thus for violation of the law. The amendment was accepted in a greatly modified form. It derived are fertile and productive. To does not go as far as the Secretary desired, some extent it is possible to distinguish but may subserve his purpose. The amendment, however, does not go into effect until

Meantime, however, the Department objects strenuously to the intimations thrown out that the inspection, as at present conplished much. In the first place, he has compelled all persons having abattoirs, applyents of this character. although the law did not specifically compel seem small, but it is held that it should be borne in mind that animals sent to market are generally in condition for slaughter, and, further, that all animals on the hoof discovered to be sick are rejected and not even admitted to inspection. PUBLIC ERRORS ABOUT TRICHINE. '

With reference to trichinæ in pork, Dr. Salmon says much public misapprehension exists. Swine are not microscopically exexists. amined for trichinosis save such as are infor export to Germany-the only microscopical examination for trichina in pork. The results of trichinosis inspections

There are more cases of trichinosis amon this is attributed directly to the fact that Germans, lulled into fancied security by countries, appreciating the dangers from trichina, habitually cook all pork thoroughly.

Compromising With Oleomargarine.

The Secretary of the Treasury has recently impromised with a large number of violator of the eleomargarine law in Chicago. April he compromised three important cases in which large penalties were inflicted. G. W. Gould, charged with selling oleomargarine in other than the original stamped packages, was fined \$1,000 as specific penalty, \$720 special tax and \$360 as 50 per cent. penalty. Wilkins & Bro., charged with removing ole margarine from tax-paid packages and mixing it with and selling the same as butter, were permitted to pay \$2,000 as specific penalty. Stolz Bros., charged with removing

mixing it and selling the same as butter were allowed to pay a specific penalty of \$1,500. Let the war against the fraudulent dealers go



tion of buying a binder, reaper or You decide upon a machine which, you remember, showed up very favorably in a draft test—but you forget what sort of a "test" it was. You remember the agent said

his machine "is just as good as the McCormick."

You remember the McCormick is a little higher in price-But you forget that the

M°GORMIGI

was on hand ready to meet any and all competion in the World's Fair field tests-tests in which all American machines were urged to take part.

You forget that the machine you think of buying did not obtain its draft figures in these tests with the McCormick-in the same field and under the same conditions.

You forget that the McCormick is higher priced only because of its higher quality. Write the McCormick Harvest-ng Machine Co., Chicago, or call WHAT WE

Success in Life

depends on little things. A Ripans Tabule is a little thing, but taking one occasionally gives good digestion, and that means good blood, and that means good brain and brawn, and that means success.

ipans Tabules: Sold by druggists, or by mail he price (50 cents a box) is sent to The Ripans emical Company, No. 10 Spruce St., New rk. Sample vial 10 cents.



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The Lilac. BY MARY E. WILKINS.

The lilac stood close to Elizabeth's window,
All purple with bloom while the little maid spun.

Herstint was a long one and she was aweary,
And mouned that she never could get it done

But a wind set stirring the lilac blossoms,
And a wonderful sweetness came floating in,
And Elizabeth felt, though she could not have

That a friend had come to her, to help her

And after that she kept on at her spinning; Gay as a bird; for the world had begun To seem such a pleasant, good place for working. That she was amazed when her stint was

And the paic-browed little New England maiden, Outside of her lessons, had learned that day That the sweetness around us will sweeten If we will but let it have its way.

ABOUT WOMEN.

QUEEN VICTORIA was 76 years old on the 24th of May, and has reigned over the English Nation since A Waist That the Summer Girl Canshe was a girl of 18.

SARAH BERNHARDT was a dresso maker's apprentice. Adelaide Neilson began life as a child's nurse. Miss Braddon, the novelist, was a utility actress in the Provinces. Charlotte Cushand the best contralto this country ever had up to a dozen years ago was a wash-woman's daughter up in Maine. All of which proves that small beginnings are not always an obstacle to great achievements. * * *

ton, though she is 80 years old, has undertaken an immense task, which she the most comfortable to wear. expects to complete soon. She has attempted to "revise, expurgate, and interpolate" the Bible in such a way as to give woman the place she deserves. Someone has said that if we lived up to the truth inculcated in the Bible woman would have all the freedom she ever wished for. Mrs. Stanton's work has not the approval of other women leaders, and it is generally thought that it will be of little profit to the cause.

Skirtmaking.

A good way to measure for making a skirt is to take a cord-a large cord is best-and tie it around the waist. With is on the shoulder, the lacing in front a tape-line measure from the lower edge of the cord down the front to the floor. For the side measure from the cord over the fullest part of the hip down to the floor same as for front. The back, measure from cord directly down center of lacing strings, need not exceed 30 cents back. In making up wash dresses of One of these waists can easily be made calico or gingham, a four gored skirt is in two hours. best. To shape the front, fold a width down the center. Then find half the rection of the cloth. Six buttons are fold diagonally to the outside edge at the bottom; cut off the edges. You will find the front gore now one-half as wide at the top as at the bottom, with both side edges bias. You must have one edge of the side gore straight and one bias. The back breadth must be straight, and can be made as full as desired. The next thing to be done is to put the gores together. The straight edge of the side gore must be put to the front, beginning at the top; baste to the foot, sew the seams up, fold in the center of the front, lay the skirt on the floor, and trim around the bottom evenly. The skirt can now be gathered or fitted with darts. For darts place one on each side of the center front and two in each side gore. The one next to the front should be deepest for a person with large hips.

The Busy Woman's Garden.

The busy woman wants for her Summer garden such flowers as will give the largest amount of bloom throughout the season with the least possible amount of

One of the best annuals is the phlox. It is of the very easiest culture. It begins to bloom early in the season. If prevented from developing seed, it blooms all Summer. It comes in a great variety of colors and shades, from pure white to deep crimson. The two finest varieties are the white and the bright rose. Grow these colors in a bed by themselves, and you will be more pleased with the result than you will if you have half a dozen other colors in it.

The petunia is another easily-grown plant. It blooms with wonderful freedom, and keeps at it until frost comes. If you go over the bed once a month and cut off the ends of the old branches, the supply of flowers will be greatly increased, as new branches will be sent out, on which a great many flowers will be produced. The colors range through all shades of rose and violet to pure white. Many varieties are blotched and marked in peculiar and striking ways. Some of the newer sorts are beautifully fringed and very large.

The calliopsis is a charming flower. It gives a great profusion of most showy, brilliant blossoms, some of a rich golden-yellow with a maroon blotch at the base of each petal, others all maroon. It is excellent for cutting, because of its long stems.

Every garden should have a bed of nasturtiums. If you want many flowers from this plant, do not give it a very rich soil. If you do, there will be a Juxuriant growth of branches and foliage, but few blossoms. The dwarf varieties are best. This is an excellent plant to

cut from. Its colors range from palest vellow to dark crimson and maroon.

Balsams are beautiful plants. Their flowers are like miniature roses in form. and they are produced in great numbers all along the branches. The foliage is also profuse, and a great deal of it must be cut away in order to give the flowers a chance to display their beauty.

Of course, sweet-peas should be cluded in this list. So should the old morning-glory, which I consider our best flowering vine for general cultivation. It is of rapid growth, of the easiest culture, and what can be more beautiful than a great mass of it covered with its pink, white, crimson, and blue glories"? It is a plant whose popular name is a most appropriate one.-Harper's Bazar.

MORE FREEDOM.

not Do Without.

The Summer girl who enjoys life at all, who rows, plays tennis, rides a wheel or a horse, made up her mind long ago to lay aside her corset. There was once a time when only the dowdiest and most strong-minded of women dared to defy the custom of centuries, and not wear man was the daughter of poor parents, these rock-ribbed garments. Now five women out of 10, and some of them the most stylish and best-dressed young women one meets, do not own them; and be it said to the credit of the girl of today, pinched-in waists are a rarity.

There are many substitutes for the corset, and the accompanying pattern MRS. ELIZABETH CADY STAN- from the pages of The Country Gentleman is one of the easiest to make and

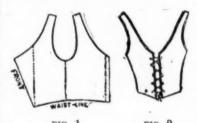
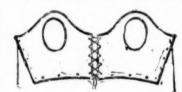


Fig. 1 represents the pattern; Fig. 2 the front view; Fig. 3 the whole waist spread out. It extends only to the waist line, and has but one seam, which and behind giving it a perfect fit. The material is doubled. Of white duck at 121 cents a yard, or heavy muslin, about one yard is required, and this, with the cost of the whalebone, buttons and two

The dotted lines (Fig. 1) show the diwidth across the fold. From that point placed at the waist line, to which all the



their weight is supported entirely by the shoulders instead of by the hips, which is so uncomfortable and unquestionably unhealthy. The whalebones are inserted between the two thicknesses of cloth, and are held in place by rows of parallel machine-stitched lines. Two bones in front and two behind are quite sufficient. The two separate parts of the waist are neatly bound around the edge with tape or narrow bias binding.

The New Shirt Waist.

The new shirt waist is not very different from that of last year. Instead of gathers at the waist it has tiny plaits, and pearl buttons instead of studs. The



collar is starched as stiffly as possible and many women purchase men's white collars to wear on the colored percale waists. Though men's ties are also worn, they are not as tasteful as the soft scarf ties worn by boys.

FREE TO INVALID LADIES.

WOMAN'S WISDOM.

Easily-Made Pancy Work. Easily-Made Pancy Work.

Eppron Farmiouse: Never before did
the shops put forth such a bewildering array
of fancy-work materials. Not filmsy fabrics,
that will endure "but for a day," but materials for draperies and pillows that will well
repay for the labor of the embroidery which
is now so fashionable. Doilles and center
pieces come in round, square, and oblong
shape. Most of this work is done on white
linen with black Asiatic file, or black Roman
floss. The edges may be fringed, hemstitched or button-holed. Just at present on
round doilies the latter is the preferred method stitched or button-holed. Just at present on round doilies the latter is the preferred method of finishing. For heavy linen use the Roman floss, and for lighter weight use the Asiatic filo, but let the work be done in black if you would have it "up to date." Both marble and wood tables are now hid-

Both marble and wood tables are now hidden under a cover which is usually of heavy material embroidered, and finished with flax fringe or heavy face. A gray-green linen or denim worked in some simple design with black Aslatic rope silk is always in good taste, and will harmonize well with the fittings of almost any apartment.

tings of almost any apartment.

The really new work this season, however, is a revival of the old-fashioned cross-stich, but not on canvas as formerly, please. It is worked on heavy silks and effective tidy recently seen had for its center strip a piece of seven-inch apple-green satin ribbon. On this was basted a strip of canvas. A running vine was worked in cross-stitch with black Roman floss. The canvas threads were then drawn out, and the design left handsomely worked on the satin. A crocheted strip five inches wide, done with black Victoria knitting silk, was sewn to either side. The bottom was formed of black and green Asiatle twisted embroidery silk

A sofa pillow of yellow art satin worked with a landscape entirely in black Roman floss could be executed quite quickly, and would be very effective. The most appropriate finish for such a cushion would be a full will of vich black large.

full ruffle of rich black lace. A very serviceable and inexpensive table cover may be fashioned from cream-colored goblein cloth. In each end work a large spray of flowers with black Asiatic rope silk. With wash ribbon, also black, make a bow and ends and say over the steppe of the flow. and ends, and sew over the stems of the flowers, and fasten the ends in place with fine stitches. Finish the edge with heavy creamcolored lace, and you may send your cover to a careful laundress times without number,

to a careful laundress times without number, almost, without injury.

One often accumulates pretty pictures which it is desired to preserve, but which seem hardly worth the framing. The very daintiest of frames may be made for these at home in the following manner: Paste the picture on bristolboard or water-color paper, so as to leave one and one-half inches of margin. Have a pice of ordinary window glass. gin. Have a piece of ordinary window glass cut the exact size of the foundation on which the picture has been pasted. Take satin rib-bon, No. 16, just twice as long as the width of the picture, of any color that will harmon-ize with the fittings of the apartment in which it is to hang, and on one-half of it work a small running vine with black Roman floss in outline stitch, or if something more elaborate be desired work the vine solidly with black Asiatic filo. Work two pieces of this ribbon, and put one tightly across the top of picture and glass, and the other across the bottom, fastening on the back. If this be properly done it will hold the glass firmly in place. Ribbon bows may be placed on the Ribbon bows may be placed on the upper corner to conceal the ends of a similar piece of ribbon by which to hang the picture.

—INEZ REDDING, Chelsea, Mass.

Though it is a matter of taste, and black is the latest hue for embroidery, yet we think that it lacks in daintiness the extremely pretty colors which come in the filosele wash silk, and which skilful fingers can stitch into violets, arbutus, the wild rose, and other blossoms almost real enough to grow.—EDITOR.

GIVES HER KNOWLEDGE TO OTHERS.

Hints for the Home Economist Taught by Experience.

EDITOR FARMHOUSE: This is the time rear when most farmers' wives are tired. They go to bed tired and get up tired, nothing but tired all the time. They take no time to see the buds and blossoms and blue sky. Before their vision is nothing but cobwebs, dust, musty odors, moths, ants, and bugs that must be exterminated in as short a time as possible. So they work, and worry, and stew, until they become extremely blue, where, if they would work slower, the aches would be less numerous, the temper sweeter, and all the household happier.

Now a few hints from one who has a house

of 11 rooms and cellar to clean without any extra help. Monday morning I wash, churn in the afternoon; always have ice, so as I can churn when most convenient. Tuesday morning, ironing; the afternoon I spend in baking. Wednesday, I mend, and take down all the pictures in the room I want to clean Clean them thoroughly and put in another room. The curtains and all the furniture is then cleaned; if upholstered, taken out of doors, aired and rubbed with a flannel cloth dipped in gasoline. This will take all the dirt out, and improve any soiled spots. If there are any moths it will drive them away. The wood-work on furniture I rub with two thirds linseed oil and one-third turpentine. Then I take the tacks out of the carpet, but always leave the carpet down on the floor, as I consider if I get the supper and feed my

poultry I've done a day's work. The next morning I take up the carpet (after doing up the morning work). I then roll up the carpet lining, carefully keeping in all the dirt, and carry it out-doors. I find very little dust on the floor, nothing like the dust one finds if they use straw. Then cover my broom and sweep the ceiling and side walls, lastly the floor. Then get the mopwringer, a pail of not water, with plenty of salt in the water, and soft soap, and mop the floor. With a wringer one need not soil one's hands, and your wrists don't ache either, and you can do the work quicker. The wood-work I wash with water, and either gold-dust or pearline instead of soap. The windows are not taken out and washed in a tub. The dust is removed with an old piece of cheesecloth, the frames washed, then with a flannel cloth dipped in gasoline wash the glass all over, let dry, then polish with a chamois, and they will reflect the image of

the polisher every time.

Now comes the tug of war, but by exercising a little tact at the dinner table, by pleas-ant conversation, and asking sweetly if they can't help me shake the carpet, I generally get the men to lend a hand, not forgetting to tell them it's such a help to me, and I am so much obliged. The carpet is then laid on the grass and sprinkled with coarse salt and swept on both sides. Then the paper ining is laid down the carpet relaid forgetting to put insect powder and salt close to the mop-boards. I think by doing this I get rid of the moths so many complain of. Turpentine is also good, but I dislike the smell of it. The renovated furniture is now room is cleaned, and if this be the sittingroom the stove is again blacked and set up. Then if cool evenings come we are sure to be snug and warm, not obliged to hover over the range in the kitchen. If I am much tired, I wait a day before cleaning another room, or if the weather is disagreeable.

if the weather is disagrecable.

I always aim to take up the carpets in the rooms most used in the Spring, and the ones not used so common, in the Fall; this divides my labor equally.

I have just painted my kitchen ceiling a light pink by using this: Five cents' worth of glue dissolved in water, let dry; one gallon inside white, half pint scarlet, half pint copal

varnish; open the white and pour in the scarlet until the desired shade is perfect, being very careful not to get too dark, as light cellings are prettler, and I doubt if they soil any quicker. When this gets thick, thin with turpentine.

There is something all do not know about this work, to do it in the easiest way; it's simply this: Wind a cloth tightly around the brush, only leaving about two inches of the bristles exposed; when the brush is dipped lightly in the paint and turned up, the cloth catches the little drops of paint, and yourself and the surrounding floor are not spattered with it. I did not know this when I painted my first celling, and the consequence was I would have made a first-rate sign for a barber shop.—Mrs. F. A. GRAHAM, Maumee, O.

Camper's Bread.

EDITOR FARMHOUSE: In New Mexico and Texas is made a peculiar bread that is neither light-bread, nor yet soda bread as we people from the "States" understand it. Every "mover" from Texas and every round-up wagon has its sour dough keg, and they make fresh bread every meal; "sour dough bread" they call it, though that is a misnomer, for it is the sweetest of breads, when properly made. It is rather difficult to start, though when started is always ready, and is set on the same plan as the old buckwheat cakes, always reserving a leaven for the next time.

The leaven is started thus: Take a pint of warm water and yeast, into it stir flour enough for a stiff batter, set in a warm place to rise; when it looks full of bubbles add a little more flour and warm water, letting it rise again to be sure it is strong enough, for all your success depends on the lightness of the dough. Now add sufficient more warm water and flour, according to the size of the family; when light again take a quantity of flour in a dough pan, make a hole in the middle, in which pour enough of the dough to make bread for the family; now put in salt and soda, dry, sprinkling it as evenly as you can. When very light, a little sugar is an improvement. With a strong fork whip the dough to mix soda and salt, then lightly knead it with the hands until smooth; have bread-pans well greased and hot; pinch off bits of dough, mould into biscuits, dip the top into the grease in the bread-pan, and if very light can be put into the oven to bake little more flour and warm water, letting it very light can be put into the oven to bake nearly as quickly as ordinary biscuit. The flour remaining in the pan put into your leaven, and as much more as you think will be required, mix as before and set in warm place until wanted.

This never gets too light; but one must use their judgment as to the quantity of soda just as they would in milk, according to the de-gree of sourness. If the first baking is not satisfactory, do not be discouraged, for the dough continually improves, and I don't think I ever saw anyone who did not like this bread. If this finds favor, I will send a number of recipes to be made from this same dough. With me it answers all purposes of sour milk in many cases. I will send recipe for several Mexican dishes.—M. A. LANDON, Joseph, Socorro Co., N. M.

Household Hints.

Lemons will keep in fine condition for emonade if sliced when fresh and packed in glass jars with a layer of granulated sugar alternating with a stratum of slices.

When the overalls are much worn, a good way to mend them is to rip the seams and set in new fronts to the tops of the pockets. To take paint out of clothing, use equal parts of ammonia and turpentine. If the colors are fast it will come out without Saturate the spot two or three times injury. then wash out in soapsuds.

Cakes and sandwiches can be kept fresh by

wrapping them in a cloth and setting away where the air will not touch them. The same method can be used to preserve buns, biscuit and coffee cake.

By tying a hage of cream to a short lariat and fastening the other end to a saddle the Arabs do their chuming. The horse is started off at a brisk gallop, and after a round of half a dozen miles the butter has come.

To clean papered walls tie a soft cloth to a broom and brush gently. When sewing machines came into fashion

the old-time quilting done by hand was discarded. Now it is revived, with all its original charm. To rest one's feet after a day of ironing, bathe them in tepid water and rub with vinegar or alcohol, and dry well. Then put on fresh stockings and shoes, and the greatest relief will be felt.

A newspaper philosopher of the period has observed these few things: "A woman stops eating when worried, a man stops sleep-

In housekeeping there are certain articles used which ought to be given a good weekly cleaning: Dusters, brushes for cleaning sil-ver, clothespins, and whisk-brooms.

In baking bread or rolls put a saucepan of boiling water into the oven. The steam will keep the crust smooth and tender.

Wear well-fitting shoes about your house-rork. They are less fatiguing than loose, untidy slippers. Use a wooden spoon or paddle for mixing

HOME TABLE.

GINGER BREAD.

Two eggs, one cup New Orleans molasses, one cup of brown sugar, one cup sour milk, one large teaspoonful of soda, one and one-half cups of flour, small cup shortening, little salt, nutmeg, and a tablespoonful of ginger. Put half of soda in the molasses and half in milk. STRAWBERRY SHORTCAKE.

To one quart of flour add two heaping teaspoonfuls of yeast powder, three teaspoonfuls of white sugar, and a little salt; mix these thoroughly. Put three tablespoonfuls of butter in the flour thus prepared. To the beaten yolk of one egg add one cup of milk; then put the whole together as quickly and with as little handling as possible. Roll into two thin sheets, lay one on the other and bake in a well-greased pan. When done, and while hot, separate them and put between a thick layer of berries, well sugared. Beat the white of the egg stiff with plenty of powdered sugar and mix with the berries. The berries sugared a little while before you are ready to use them is best.

Written for The Farmhouse. Good Cornbread in Rhyme.

I'wo cups of Indian, one cup of wheat, One cup sour milk, one cup sweet; One good egg that well you beat, One good egg that well you be Half a cup molasses, to, Half cup sugar add there too, Hall-oup sugar add there too,
With one spoon of butter new,
Salt and soda each a spoon,
Mix up quickly and bake it soon;
Then you'll have cornbread complete,
Best of all cornbread you meet.
It will make your boy's eyes shine
If he's like that boy of mine;
If you have a dozen boys,
To increase your household joys,
Double then this rule I should,
And you'll have two corn-cakes good;
When you've nothing nice for tea,
This the very thing will be.
All the men that I have seen
Say it is of all cakes queen; Say it is of all cakes Say it is of all cakes queen; Good enough for any king, It a husband home can bring, Warming up the human stove Cheering up the hearts you lo And only Tyndall can explain The links between cornbread. Get a husband what he likes, And save a hundred household

THE BLUES.

Why do Women have the Blues more than Men?

[SPECIAL TO OUR LADY READERS.] Are not women naturally as lighthearted, brave, and hopeful as men? Yes; but woman's organism is dif-



Women in per-fect or good health are rarely victims of this symptom. Women nearly monopolize the blues, because their promote them. When the female

organs fail to per-form their functions properly, when the dreaded female complaints appear, there is ownnervousness, sleeplessness, faintness, backache, headache, bearingdown pains, etc. 'let-me-alone" and

When the woman does not understand what the matter is, and her doctor can not or will not tell her, she grows morose and melancholy; that's the blues.

Mrs. Newton Cobb. of Manchester. O ... says: "Lydia E. Pinkham's Vegetable Compound will correct all this trouble. I cannot praise it enough. I am pleased to tell every one that it cured me; and if it will cure me, why not others? I am sure my case was severe enough." It will. Get it of your druggist at once.

TALKING IT OVER.

Hints and Opinions on Things in the Home and Out of It.

HER BOOKS AND HER BAD LUCK. Mrs. Rena A. Osborn, Ipswich, S. Dak., writes: I enjoy reading The American Farmer very much, especially the "Farmhouse Department." I think we would all enjoy it more if it was semi-monthly, in-stead of monthly. I, too, enjoy books, and read whenever I can spare the time. I have read part of Dickens's books, and think them excellent. If one merely reads for the story part, they would be tedious; but I think they contain many beautiful thoughts. Jane Eyre, by Charlotte Bronte, is another favorite of mine. The "Life of Daniel Boone" gives us information of olden times, when our ancestors lived among the Indians. I think to thoroughly understand a book one should read it over several times. Our experience with Dakota has been

almost equal to Mrs. Sam Wilson's with Idaho. We have lived here over eight years, and have had failure after failure, until we are about ready to give up in despair, and go where we know there will be something raised every year. I think the Government ought sion the homesteaders of this part of Dakota, or else give them another chance.

SHE SENDS A GOOD ONE. Mrs. M. F. Locke, Alma, Ark., writes: Mrs. Sam Wilson, Humphrey, Idaho, wishes a good recipe for making cucumber pickles.

This recipe may not be that which our grandmothers used, but connoisseurs say it makes the best pickle ever eaten.

When the cucumbers are the proper size, say, two inches in length, cut from the vine daily; for being of rapid growth, to skip a day one will likely find many too large; wipe clean and just drop in a jar of good apple vinegar; to the vinegar add one tablespoonful of powdered alum, spices to taste, and enough brown sugar to take away the sharpness of the vinegar. The pickles will keep well, be of a dark-green color, brittle and firm

AVOIDING MISTAKES. G. K. H., South Haven, Mich., wisely says: If housewives would keep the various stances used in cooking, such as salaratus, baking powder, cream of tartar and spices, in one place, and if they were plainly labeled, it would often be a very great convenience.

The wife who knows by long use the contents of each box or bottle, may be suddenly prevented by sickness from guiding the wheels of the domestic machinery. Then hired help must be procured to fill in a measure the vacant post; or perhaps a kind neighbor tries for a time to carry the burdens in addition to her wn. Now in either case if there were no wondering as to what or where things were it would be much easier to do the work, as well as being a saving of time. Medicines and drugs should also be so distinctly marked, to prevent any possibility of mistake in regard to their nature.

A LETTER FULL OF ENCOURAGEMENT. Sumper's Wife, Fox Lake, N. D., writes like THE AMERICAN FARMER and better, every issue contains so many valuable articles. When I take my shears to clip some of its many good things for my scrapbook, I am loth to part with any of it. The editorials are especially interesting to me, so are the articles on poultry. Since I invested in thoroughbred chickens, I watch for it with renewed interest. If I succeed as well with my thoroughbred White Leghorns I purchased of the noted poultry fancier and pultry writer. Nellie Hawks, of Nebraska as I did_with my "scrubs" last year, I would like to tell the sisters how to handle their "biddies" for profit as well as pleasure.

May THE AMERICAN FARMER live long to

benefit the farmers, not only of the East, but of the far West. A COMPLIMENT.

Elsie Gray, Kansas City, writes the follow-ing, for which kinds words the Editor of Farmhouse extends her thanks: We take half a dozen papers, but think THE AMERI-CAN FARMER far better than any of the others. The editor of the Farmhouse deserves great credit for conducting such an excellent

EXCHANGE.

Will exchange the following books for music or anything of equal value. They are all in good condition, bound in heavy paper covers. Write first with stamp. "The Woman in White," "Vanity Fair," "Marjorie," "The Three Guardsmen," "Lady Audley's Secret," "Put Yourself in His jorie," "The Three Guardsmen," 'Audley's Secret," "Put Yourself in Place," "The Last Days of Pompeii." C. S. PICRERING, Fox Lake, N. D.

A lovely blouse can be made of pink nun's veiling. The neck can be shirred. having three rows of lace forming a pointed yoke. The sleeves can have three bands of insertion, and be trimmed with small black velvet rosets. A pink roset may close the back of the collar.

Best She Could Do.

"No, George," said the mature but still lovely maiden to her youthful admirer, "I can never be anything more then a mother to you. Your father spoke first."-Chicago Tribune.



Any Woman can be a Fashionable Dressmaker.

Every woman will admit that it would be more economical to make her own dresses if it were not for the waste of materials by mistakes in cut ting; and more satisfactory, if she were sure of a fit. Both of these objections can be easily overcome.

It is not necessary to waste more material than the most scientific and fishlonable dressmakers, Worth, Redfern, etc.; nor that a fit be less certain than with the average dressmaker, etc.; nor that a fit be less certain than with the average dressmaker.

Training at a special school of dressmaking is not necessary, nor is an elaborate system of dresscutting, coaling from \$5.00 to \$22.00, and requiring a skilled head and hand to operate it, indispensable. What is absolutely necessary is a simple and accurate chart, combining, in a condensed and economical form, all the features necessary to enable any woman of ordinary brightness to cut a styllsh and perfect-fitting dress.

THE PATENTED

LALLA ROOKH CUTTING CHART

FOR SATISFACTORY DRESSMAKING

Is superior to others because it is easily understood, is quicker, requires no mathematical calculations or divisions, and gives the most perfect shape. It is the result of long experience in dresscutting, and embragos all that knowledge, insecutivy and taste can devise for citting the most satisfactory and gracefully fitting dress waists, basques, etc.

With this chart only one measurement—that of the bust—has to be taken. All others are plainly marked on the chart, so that unless very careless, even the most luexperienced can make no mistakes. Perfetts having long, or very long, waists, round shoulders, large hips, or, indeed, any particular irregularity of figure, can be fitted perfectly by using the "Lalla Rookh." Arranged for cutting from 25 inches to 46 inches, bust measure.

nessure.

The "Lalla Rookh," unlike others, requires but one measurer
an be used to cut dresses to button in the back. The regular can be used to cut dresses to button in the back. The regular retail price is \$3.

Remember we do not sell this famous outfit at all. We give it away, delivered free of all charge, to anyone who sends us a club of ONLY TWO yearly subscribers to THE AMERICAN FARMER at 50 cents each.

Go to work at once. This is a chance for our young lady renders.

Bon't wait, because we reserve the right to withdraw this offer at any time. Address—

THE AMERICAN FARMER. Washington, D. C.

Growing Peppermint for Sale. Peppermint has been a profitable crop

hitherto, and much money has been made from it when the oil has sold for \$3 or more a pound. It is about half this price now, but yet yields a profit. It is mostly grown in Wayne County, N. Y., and in southern Michigan, but the culture has spread into other localities, thus reducing the price by increasing the supply. The plant grows best on low, damp soil, on which it is planted by cuttings, which root with great facility. The rows are two feet apart, and the first crop is mown when in early blossom, as hay is, and when it is wilted, but not dried, it is distilled with water, the oil going over with the steam, and, after condensing on the water, it is skimmed off and run into cans for sale. It is not a desirable crop for a careless farmer, as, if weeds are permitted to grow and mix with the herbage, the oil

if only for the hay to be baled and sold. South American Cheap Wheat,

is of inferior quality and may not pay

the expense of producing it. On the

whole, except for experienced growers,

it will be more profitable to grow grass,

It will be interesting to our farmers to know that during an inquiry before the royal commission appointed to investigate the state of agriculture in Great Britain a ranch owner in the province of Santa Fe, in the Argentine Republic, gave evidence that the Italian colonist could sell wheat on his farm at a price equivalent to 33 cents per bushel, and if enabled to obtain 60 cents in the London market it would much encourage the extension of wheat growing. Another point worthy of notice is that he speaks very much of the value of alfalfa and states that ordinary wheat land in the republic could be bought for \$3.50 per acre, but the same land when laid down to alfalfa would at the end of a single year be worth 26 to 28 per acre. The Argentine farmers have become fully alive to the importance of alfalfa and are taking up its cultivation much more rapidly than our agriculturists in the United States.

Sugar Making.

So many farmers abuse their trees by excessive tapping. To a bucket never put more than two spouts, some suggest but one. Large trees are the only ones to be tapped.

Use a three-eighths-inch bit and bore one and one-half inches deep. A deeper hole and a larger bit would injure the tree, and no more sap would flow. Either turned wood or metallic spouts and hanger must be used. When the sap is sour, do not try to make sugar. If tin buckets are used, wash in scalding water, dip in thin sirup to prevent rusting, and cover carefully to keep out dust, dirt, spiders, or any other thing that will injure the buckets for making sugar. When the apparatus is taken down, clean throughly and pack away carefully, and put in a cool place. It is well to see that the apparatus is in good order before using. Every particle of dust or dirt injures the quality of the sugar. It is impossible to make good sugar unless implements are clean and kept so.

Wooden Bread.

In Berlin there is a great bakery where two hundredweight of wood bread is turned out every day for popular consumption. The bread is made out of sawdust and rye flour-three-fourths saw dust. A chemical process takes away the texture and taste of the sawdust and liberates the saccharine and nutritive elements, and, with a little rye flour, it makes nutritious bread, which is sold at \$1.12 per hundredweight.

It is said the famous "Llano Estacado," or "Staked Plain," of Texas is well adapted for the wine grape, and a few years hence we may be drinking Texas wine at our table d'hote dinners and blessing the time when Texas cotton was grown in such enormous quantities that it broke the market and made diversified farming necessary for the South.

SPECIAL HOUSEHOLD

Offers to The American Farmer Readers.

AMERICAN CATTLEMAN'S OR FARM-ERS' KNIFE, three blades, stag handle, brass with name plate. Blades are as follows: One stout spear, one strong sheep, and one medium straight. For the kind of knife it cannot be bet

TWO PAIRS OF SCISSORS, size 4½ and 5 nches. They are first quality, imported hand-forged teel, full nickel-plated and warranted to give satisfication. Price, delivered...

AND SCISSORS COM-articles. We have a combination consisting articles. They are a pair of shears seven and a inches long, and a pair of scissors five inches lom shears and scissors are of forged steel, fully plated and highly tempered. They are of ti-quality, and just what is needed in every hom These two articles are sent together, postpaid, de guaranteed, for only.

Any lady who may receive these articles will that she has a bargain. SHEARS AND SCISSORS COMBINA

ONE MANICURE SET, consisting of One Pats ONE SET (SIX KNIVES AND SIX FORKS), strongly made, with three rivets in handles

ONE CARVING-KNIVE AND FORK, 8-inch ONE BREAD KNIFE, swelled coccos handle, wide bolster, 8-inch rolling blade, finely finished and highly tempered. This is an excellent knife, and one which will give perfect satisfaction. Price, delivered to any subscriber.

Or free for two yearly subscriptions with \$2. Or me yearly subscription and \$1.20. BARBER'S BRUSH AND COMR. The

LADIES' BRUSH AND COMB. This imported, all bristles, with highly pollahed roback. The dressing comb is of Imported Frenchorn. Frequent brushing is beneficial to the horseves the healthfulness of the scale. A good therefore, is very essential. Price, delivered... THE AMERICAN FARMER, Washington, D. C.

WADE & BUTCHER RAZORS.



nollow-ground razor with ie, set ready for use. Sent p THE AMERICAN FARMER, Washington, D. C.

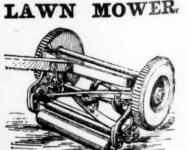
ICE CREAM FREEZER. After examinatives of ice crewe have decide



THE AMERICAN FARMER, Washington, D. C.

BARGAINS IN LACE CURTAINS. We have made arrangements to furnish of with some handsome Nottingham Lace (various patterns. They are all of the very lithree and one-half yards long, and 64 inches We offer the three following grades. All of We offer the three following grades. And a sold by the pair.
No. 200 will be sent by express (the recipe express charges), upon receipt of \$1.50 Ko. 300 will be sent by express (the receivex press charges), upon receipt of \$2.25 per Xo. 400 is a very handsome article and by the context of t

THE AMERICAN FARMER,



THE AMERICAN FARMER, Washington, D. C.

Written for THE AMERICAN FARMER. ADVENTURES INDEED.

What Happened to a Man Who Went Mining in 1850.

The 31st of May, 1850, found me on board the steamship "Ohio," bound, as were most of the passengers, for the gold mines of California.

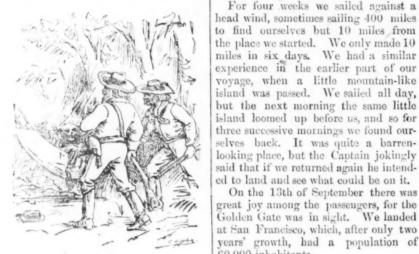
We sailed from Charleston Harbor and were four moaths on the ocean, "Bout ship !" "Cast anchor!" "Cast landing at San Francisco Sept. 13, after a voyage of 12,000 miles, 3,000 on the Atlantic and 9,000 on the Pacific Ocean.

We arrived at Havana, Cuba, on the 7th of June and were transferred to the "Falcon," sailing for Chagres. On arriving at Chagres we were carried in a eguee to Gartun.

The river being so swollen we decided to send only our baggage in the canoe, while we sat out to walk to Gorgona. in some way we missed our path, and when we discovered our mistake found ourselves among some small mountains. Knowing the direction of Gorgona, and being anxious to reach it that night, two companions and I started off acress the mountains with only the direction to guide us. The remainder of the party returned the way they came until they struck the path they had left.

One of my companions was an old sailor, who that morning had carried me on his back across a creek for a dime, as I could not swim. The other was an old man who could not travel very fast.

We passed a cabin and inquired how far it was to Gorgona. They could not speak Linglish, but understood the word "Gorgona," and holding up three fingers, cried out: Three lengues! Three leagues! Meantime the sailor had managed to



A GHASTLY DISCOVERY.

steal a chicken; and, though hotly pursued

by the owners, succeeded in escaping. We had to push our way through briars and thorns till our clothes were torn to shreds. Finding we could not get along that way, we got into a little stream and began to run down it, for it was getting late in the day. But the old sailer, who had been drinking, soon got tired, and, swinging his hammock in a tree, prepared to spend the night. I knew it would be dangerous to leave him there, so I tried to persuade him to come

on, but it was of no avail. I arrived at Gorgona about sunset: the man came in later. The party we had separated from came in next morn- was about 30 miles from the mines, we ing, having camped a few miles out of procured mules to carry our trunks and the town. They passed the old sailor other things to the mines. One trunk that night, and tried to persuade him to was put upon the mule's back and one go on with them, but he said he was on each side; these were tied on with tired and preferred to spend the night ropes. The weather was exceedingly there, but asked them to wait for him hot, a kind of heat which I never felt next morning. They waited; but, finally, in any other place than California, and as he did not come, went back to see what was the matter. When they got 12 o'clock I became so hot and thirsty to his hammock they found nothing but that I could scarcely stand it. I saw a lis bones. He had been caten in the little house in front of us that appeared

night by a black tiger or jaguar. to be about half a mile away, and as the Fifteen hundred people had crossed mules seemed to be making such slow the Isthmus just before us, and we often progress pulling through the sand I confound it difficult to procure food. One cluded to try walking. I started for day we passed a house, where we saw a the little house, but instead of being poor old rooster walking around. Being about half a mile away, it was really very hungry we stopped and tried to buy something to cat. They said they had faint that I thought I should never nothing for us, so we asked them to cook the rouster. Four of us sat down to partake of the fowl and a little coffee, without any bread, for which we paid \$5 in gold, and we were glad to get it at any

One night while on the Isthmus we met some friends who were preparing to spend the night in a tent, which they allowed us to share with them; but we stayed awake all night on account of the savage-looking creatures, a mixture of Spaniands, Mexicans and negroes, almost bare of clothing, that stood around eyeing us curiously.

C.

ng

In crassing the Isthmus we were particularly attracted by the splendid cocoanuts hanging high up in the trees. Menkeys were plentiful among the branches, and we were told that through these animals travelers had discovered an easy way of procuring the fruit. It consisted in throwing stones at the monkeys, which so enraged them that they swollen and hung out of my mouth. San Francisco to Panama. would grab off cocoanuts and throw them | The house was a little store of some kind,

While at Panama I bought a comb; appeared almost as large as a cow.

British flag, but finally decided upon milder punishment. Upon one occasion the Captain neglected to take his reckoning, being engaged in gambling. The two following days were cloudy, and thus did not know our whereabouts. Next morning, about 4 o'clock, I was up on deck, when I noticed lights in the distance and could distinctly hear the barking of dogs, and the breakers dashing against the shore. The shout of "Land

ahead" was given, and the Captain came

running upon deck without taking time

to dress himself, crying "Bout ship!"

St. Lucas. We landed at a little Spanish

We left San Jose the 13th of Aug-

ust, and soon came upon a school of

ful sight, and was situated in Mexico,

to be cut off, as some of the barrels sup-

and we thought we would have snow.

experience in the earlier part of our

voyage, when a little mountain-like

sland was passed. We sailed all day,

but the next morning the same little

island loomed up before us, and so for

three successive mornings we found our-

looking place, but the Captain jokingly

said that if we returned again he intend-

ed to land and see what could be on it.

On the 13th of September there was

great joy among the passengers, for the

Golden Gate was in sight. We landed

at San Francisco, which, after only two

years' growth, had a population of

in what appeared to me a peculiar

manner. So many cattle were raised in

Mexico that they were killed mostly for

their hides and tallow. The hide was all

shipped in the same manner.

River, a distance of 180 miles.

When we reached Stockton, which

the dust was almost knee-deep. About

A SAMARITAN OF THE SIERRAS.

reach the house; my tongue became

with an awning in front of it. When I

reached it I sank down on the ground.

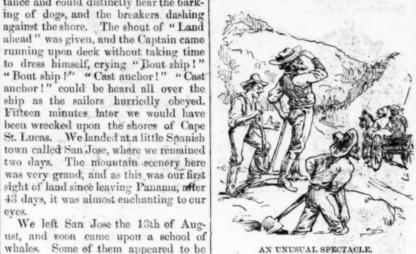
Here I ate some delicious dried figs,

60,000 inhabitants.

selves back. It was quite a barren-

many miles away from us.

crackers.



AN UNUSUAL SPECTACLE.

almost as large as the ship. For several nights our attention was attracted to a the night with us. He had got lost from the men he came out with and was in burning volcano. It was a most beautiquite a helpless condition, without money or food or friends. I gave him some coffee and bread, which he cooked for Our allowance of drinking water had himself, but I did not feel like eating anything, and next morning he left us posed to contain drinking water had to try to hunt for his comrades.

been filled with salt water, in order to When we reached the mines we slept balance the ship. To prevent anyone under the trees at night for about six from getting more than his share a weeks. It was anything else than a guard with a gun was stationed over the pleasant experience, as the howling of barrel, who gave out a certain amount the wild beasts made night hideous. daily. Our food was very poor indeed, Often they would come so near us that consisting mostly of a few wormy it was necessary for us to get up and shoot at them to drive them away. At On the 20th of August it was so last our tents arrived and we were a cold that we had to wear our overcoats, little more comfortable; but for the year that we spent in California we often For four weeks we sailed against a slept with a bowie-knife on one side, a head wind, sometimes sailing 400 miles revolver on the other, and a gun at our to find ourselves but 10 miles from heads.

At one time we were very much annoyed at something which came every few nights, eating our meal and other provisions. We supposed it was a bear, but watched one night and found it to be a jenny belonging to a neighboring Mexican. I loaded my gun with birdshot and shot it in the leg, whereupon it left and did not return. The next day the owner appeared. He was very angry, saying, "Moocha mala Mericana, poo my jenny," (Very bad American, shoot my jenny). I said, "You want to sell your jenny," pretending not to under-But shaking his head no, no, he said! "Moocha mala Mericana poo my Jenny." But thinking he could not make me understand, he went away.

One day we went out prospecting. which had been shipped from Mexico At night we came to a camping place near a thicket of chaparrall bushes. Bears are very fond of the red berries that grow upon these bushes. We found an old tree lying on the ground taken off of the cow and dried. It was and set fire to it, which we kept burning then filled with dried figs of the finest all night. The limbs of the trees near kind, then sewed up and shipped. As by came down to the ground, so we the hair was all left upon the outside, decided if a bear came we would catch these bundles had every appearance of dead cows. Corn and other things were to the limbs and climb the tree. During the night Mr. Brown woke up and exclaimed, "I see a grizzly." It was We remained at San Francisco two a large star just over the top of the moundays, and then started for the Stanislaus tain which he had mistaken for the eye of a bear. Next morning we had gone but a short distance until we saw three bears; we stood near a tree and watched them until they were out of sight. Every now and then they would raise themselves on their haunches, look at us, and chou, chou, chou at us. They make a double path when they walk, the

grass growing between. We did not see a woman in 10 months. One day while we were working in the mines a short distance from the road, word came that a man and woman were passing by in a buggy; every man quit his work and ran up to the top of a hill that thay might obtain a better view of the unusual sight.

The river near where we worked was full of fine salmon. The Indians frequently caught them with sharp sticks. more than three miles off. I become so Once when I went to Stockton I bought a spear, thinking that we would now be able to catch them without any trouble. My partner caught a very fine one with it, and the next day he wished to try his luck again. He struck the salmon with the spear, but it was such a monster that it pulled away from him, carrying the spear in its body.

I remained in California until August 1851. During the 11 months I dug \$3,000. The most I ever dug in one day was \$47. While we were there we kept our gold in bottles, which we would hide in the ground. Winter was now coming on, our tent was worn out, and the other men who came out when I did were all preparing to come home, so it was not a difficult matter for me to make

up my mind to return also. The voyage home was much shorter as well as more comfortable than going out. We came in a steamer, "The California," Capt. Budd commanding, and were less than 40 days coming from

On arriving at Acapulco the Captain allowed us to go on shore for recreation, and as the ship would not start until it was a tortoise-shell, and cost me 75 A man was standing in the door, and next day, any who wished could sleep on cents. Hers I watched them catch a when I came to myself enough to speak, I land. The natural scenery here was torioise, which they brought up on the asked him for a drink of water. He very beautiful, and as two of us were ship. When turned upon its back it said he would give me some if I would walking around admiring it, we met a first buy a drink of whisky from him. nice looking man, who said he was from We had to wait at Panama three This I refused to do, but it was not long Boston, Mass., but had been in Acapulco weeks for a ship. It was an English until another man came by, who brought for several years, and was well acquainted brigg the "Corbiere," sailing for San me some water in a wash-pan. After with the people. We thought of spend-Francisco. We were on this ship three drinking of it and washing my face I ing the night upon the shore, and he We encountered a storm the felt revived. Meantime our company offered to show us to a nice boarding 29th of July; the waves rolled up like had passed by without knowing I was house, and said we must come around at mountains, and we expected to sink there; so, after about two hours' time, a 1 o'clock and have dinner. At the time We came near having a mutiny at native State, and so he allowed me to having forgotten us, but said if we would one time. The Captain had the sails ride until we overtook the company. come again in about an hour they would lowered, the ship stopped, and all ordered By this time the man who was to be my give us a nice dinner. They seemed to on deck. He threatened to have the partner in mining became alarmed, be exceedingly anxious for us to return, offenders part in irons and carried to thinking I was about to die and he telling us what we might expect for our existing being. 13. A fetter. England, as we were sailing under the would be left alone, so he concluded to dinner, and they even showed as the stove

go back home, tired and disgusted with his trip. This of course depressed me everything about the place had a repulvery much, but yet I was not willing to sive appearance. It was a large, rock two following days were cloudy, and thus for three days we had no reckoning, and did not know our whereabouts. Next alone and we decided to the same that night I over took another man who was, like myself, alone, and we decided to work together. long in deciding to spend the night in An old man of 70 years came up to the ship. All who spent the night on us that evening and begged to spend the shore were robbed. An anodyne was given to them in their coffee, and The first of May he views with fear, next morning they found their pockets

cut open and all their money gone. We came from Chagres to Jamaica and from there to Hayti in the " Brother Jonathan," which was a river steamer. We were to land in New York, but the last three days of our voyage we encountered a terrific storm, and were blown 800 miles. We were driven into the port at Savannah, Ga., and sailed around to Charleston Harbor, almost exactly a year from the time I started from the same place.

I went to the Mint at Charlotte, N. C., and had my gold coined, which I had procured through so many dangers and The thought our poor frame sorely racks. hardships, and brought from California in a leather belt, worn around my waist. The weight was about 10 pounds, and as it was necessary to have straps over my shoulders to hold it up, they were worn sore.

With this money I purchased a house and lot in a little mountain city in South than 40 years.-C.



[For the leisure hour of readers, old and young. All are invited to contribute original puzzles and send solutions to those published. Answers and names of solvers to this issue will appear in two months. An asterisk "9 after a definition signifies that the word is obsolete. Address letters for this department: "Puzzle Editor," American Farmer, 1729 New York Ave., Washington, D. C.]

ENUCLEATIONS .- NO 11. 96-Tine; Emit. 100-Lea-den. NOMADICOUNTERSEALEDECAPOD
HAN ERAUNDERSETTERIVALED
RAMENTSERPETTESAVAGES
HONORERELATEDIVIDES
SINEWEDELESALINES
SINEWEDELESALINES
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GYRATEDEDICATEENTERON
MANAGEDOMICTLIARSOLINUS
LABELEDOMICTETARSOLINUS
LABELEDOMICTETING
SATIATING
LEATING
ENITM 98-Day-light; Down-s; Tone-Lone; Smile-Miles; Mortal-Moral; A-we; Wild-Will.

MORELIARISTOCRATSETTLES WATERAARISTOCRATIESESEL15

Authors of word-forms: A. F. Holt, Dan

ENIGMANIACS.

Complete List: Ben Trovato, Malenco, G. Race, Alumnus-4. Incompletes: Pearlie Glen, E. Lucy Date. H. S. Nut, Aspiro, Primrose, Harry, Serpeg-giando, Sacramento Rose, A. N. Drew, Newmer, Jo Urnal, Cecil, Pearl, T. O'Boggan, illian Locke, Nyas, Christo, Ellsworth, M., St. Julian, Arty Fishel, Lucile, 2 E. Z. Smithe, Guidon, Lydia, N. E. Body Carl. Esperance, Anne Koe, Presto, Calo Don Keyhotee, Folga, Waldemar, Al Addin, Lily May, Nancy Lee, Pansy, Ingleside, Rodger, Dan D. Lyon, Fancy, Zoroaster, Cinders, Nedmac, Holly, Sear, Dan Knight, Locust, Cosette, Eugene, B. W. J -53, Total, 57.

Another "Common Story." SWAMP ANGEL.

He was an "anti-obsolete." The rankest that was ever seen. When first, in love of mystery keen, He trod the 'Dom with faltering feet.

On forms containing them, though neat, He never ceased to vent his spleen; He was an "anti-obsolete," The rankest that was ever seen.

But Time, a mighty exegete, Has taught him that, though strange

They show how grew a language green, And knowledge of our tongue complete. He was an "anti-obsolete."

ENIGMANIA.-NO. 14. NO. 107-PROSTHESIS.

A song, O! a song of the chase of the cattle, And the merry-mad dash down the mountain-fringed Two,
The thud of the hoofs and the shingle's sharp
rattle.

rattle,
The clink of the spars and the ringing With knees stiff and steady, we bend to our saddles, 79"8 As the gallant old bark bends her one to

the surge; 191700 that he straddles And onward, still orward our good steeds What boots it to up of the fruit of the

morrow, bg)Td
When the spoor is hoof-deep and above is the sun We've no time for tears and we've no heart "Alle hoy, boys, hallow!" till the wild

-HESPERUS, Worcester, Mass.

NO. 108-DIAMOND.

1. A letter. 2. Portion.* 3. Asiatic trees of the bread-tree family. Recounts. 5. An encysted tumor containing every moment, but were providentially spared.

An opinion or decision expressed publicly. An opinion or decision expressed publicly. Tearings in pieces.*

8. Persons devoted found he was from North Carolina, my they made a very poor excuse about 7. Tearings in pieces.*

8. Persons devoted for the providentially found he was from North Carolina, my they made a very poor excuse about 7. Tearings in pieces.* substance resembling honey. (Unab.) to literary pursuits. (Standard.) 9. Exthe free action of the air. 10. ormations in China characterized in the highest parts by fossil trilobites. (Standard.) 11. Cakes, thinner than a bannock, made of wheat or barley or oat meal. 12. An actually -Tunste, Atlanta, Ga.

NO. 109-CHARADE. (To Ernest.)

The time for cleaning house is near, No more his evening hours are free-He must take up the carpet tacks. No matter what his specious plca-Alas! the Spring has painful facts!

In some such way to disappear-How sad the sight for man to see! No LAST there is for you and me But what we'll have to break our backs. (With trousers FIRSTING at the knee) Alas! the Spring has painful facts! We have to list with ready ear

·He'd like to hide behind some tree,

To wives' complaints of all degree .-I think they like to domineer—

How sad the sight for man to see! The half is full of WHOLE, which we Must move e'en though our poor spine cracks, (Our wives say we must persereve!) Alas! the Spring has painful facts.

O Prince, from spring-tide cleaning flee-How sad the sight for man to see! Alas! the Spring has painful facts. -Brech Nut, Newburg, N. Y.

NO. 110-DIAMOND.

1. A letter. 2. A town of northern China. (R. & McN.) 3. Seines. 4. Originated. 5. stammerer. 6. Varieties of Jamesonite. Long, stout staves, used as weapons of defense. S. Cracks. 9. European bats. 10. Destroys. (Bailey.) 11. Reeves. 12. Sees.* Carolina, where I have lived for more 13. A letter. -Dan D. Lyon, Irwin, Pa.

NO. 111.-ANAGRAM. (To Gemini.)

Home that's dear. The Summer sun was slowly sinking In the west 'midst splendor grand, Another day will soon be ended, Twilight now is near at hand. But, although a glorious sunset Paints the sky in roseate shades, Still I do not see its beauty,
As the sunlight slowly fades.

How can Nature's grandeur soothe me, When a mother dear lies low On a couch of burning fever, Suffering pain intense, I know; For at times when at her bedside Smoothing her white and fevered brow, Moans from those parched lips escape her As I watch there, even now.

Another day has passed forever, Dusk again has settled down, Mother dear is still no better, In the house there's not a sound. Softly the bedroom door is opened, The doctor comes within the room, With a slow and noiseless footstep, Midst the silence and the gloom.

"Doctor, doctor," in accents trembling, "Tell me not that she will die, Do not wring my heart with anguish, Here my plaintive, mournful cry.' In response to my entreaties. With a voice quite filled with pain, "My dear boy, her case is hopeless, She will not see a morn again.'

Oh! these words of bitter meaning Fall upon my listening ear, How they tear my heart in sorrow, Must I lose my mother dear? The only friend I loved and trusted, With a faith as pure as snow, Who guided my erring childish footsteps, Teaching them the way to go.

"Mother, mother, dos't thou hear me, Doctor says you cannot live, Please forgive my past offences,
To me thy benediction give."
Softly like the voice of angels, Speaks my mother sweet and fair, "Oh! it breaks my heart to leave thee, Come and join with me in prayer.'

And as I knelt at her bedside Praying with her, as of old, That I may bear my sorrow bravely, In this dreary world so cold, She then drew me closer to her, With a mother's lasting love, Gave to me the dving ble "Meet me in the world above."

She never saw again the sunlight,

Sifting through the trellis vine When the morning sun did brighten, She in Paradise did shine. To the little country churchyard, There beneath the cool, green sod, Did they lay her, my dear idol, Who I know is now with God.

-Zoroaster, Philadelphia, Pa. NO. 112-HALF-SQUARE.

1. Lake. Northwest Territory, Canada. Bij.) 2. Reciprocal influence. 3. Apartments in the cabin of a ship. 4. Species of paces. 6. Sardines. 7. Walks fast. Greek or Latin proper name. 9. Steals. (Obs.) 10. A Russian prefix, meaning "cape." (Lipp., 1855.) 11. Inside. 12. A letter. —PALLAS, Pawtucket, R. I.

NO. 113-ANAGRAM.

Told truly; balm in heaven, sad maid. I dreamed as day did sleep, of Paradise, That I had entered through its portals Reholden from afar My voice did swell with notes seraphic

In heavenly choir.

I would that thee, dear heart, went with me. The glorious splendor of His throne Did shed a radiance ne'er conceived

By mortal on this sphere. Earth's dome of azure, set with stars Did spread a spangled veil beneath. Silver streams by fair bloom banked, Flowed from sylvan glade and slope: Flexile boughs of trees, low swaying Chernhs cradled, their bright wings folded, Golden harps, but newly strung, Did sound in melody, so divine, That angels who at pearly gate Wert waiting for the new-born sonls To enter-turned their faces glorified

One seraph of the heavenly host, In celestial robes most beauteous Did guide me through the winding way Of fair Jehovah's land. Nature's alchemy, in untold ages, ne'er Could give to earth one glimpse of beauty Half so rare as glows in Paradi e. Yea, this, and more of joy, dreamed I

In listening attitude.

In one brief hour, as night awoke. If I could but assurance feel That glories such as saw I there Would surely bless us in eternity. I could live on and much endure, If at last I dream in Paradise. . -MAY BE, Cincinnati, O.

Enigmiana.

We note with pleasure that a number of new comers are with us this month, and exend mor hand to each in hearty welcome. 'The Enigma' now goes to the homes of a large imajority of the active members of Puzzledom, which encourages us in the hope that its—already firmly established—is safe. Friends Maud Lynn and Madeline, of Balti-more, have been blessed with a baby son. May he be as wise as his father, as witty as his mother, and as good-looking as both.' Swamp Angel's companion piece to Guidon's He started to issue a puzzle sheet," is good. He avers the verses do not refer to Beach Nut.

—The April number of Serpeggiando's Quillets contains a finely-executed cut of olon, of Wheaton, Ill., and an interesting R. O. CHESTER.

THE MARKETS.

Review of the Fortnight.

Wool Market.

Boston, May 25—The general tone continues in buyers' favor, with manufacturers at the same time taking a fair stock of wool. Values are no higher, nor is any marked attempt observed of an effort to make them higher.

For Ohio and Pennsylvania fleeces there has been a quiet trade, and a few lots of XX and X are closed out at rather lower figures. For XX lot is still the top of the market. We quote in this market Ohio X, 16. Ohio XX, 16; Ohio XX and above, Isal'; and No. 1, 19a20.

For Michigan wools the demand is quiet. Some X wools have been closed out at 14.

For staple wools the market is unchanged. Unwashed combings are in good demand, but buyers are still talking very low prices; the prices quoted continue about on a par with this market. Delaines are in fair demand and steady at quotations. We quote this week, Ohio delaine, 18; Michigan, 17418; unwashed quarter-blood combings, 16418; and three-eighths at Isal's, washed combings we quote at 1823 for No. 1 and 1823 for No. 2.

Texas wools are dull. In Texas, some wool is changing hands, but not at any change in prices. We quote clean, 28a29 for fine, and 25a25 for medium Fail wools. In Spring wools, fine northern, 12 months' growth, clean, 31a32; and for six to eight months' growth, 25a28; and six to eight months' growth, 25a28; and six to eight months' growth, 25a28; and six to eight months' growth, 25a28.

Oregon wools have been sold more freely, but without change in values. The market is in favor of the buyer. We quote prices clean, as follows: 31a28 for northern free, 12 months, and 37a28 for northern free, 12 months, and 37a28 for onte in quotations. The new wools are arriving and are held quite firmly. Quotations are as follows: 31a28 for northern free, 12 months, and 37a28 for one wools are much quieter, B's being in the best demand. The market is unchanged in the most are prin Boston, May 25—The general tone continues in buyers' favor, with manufacturers at the same time taking a fair stock of wool. Values

J	Ohio and Pennsylvania No. 1 fleeco	19 az	ð
J	Ohio and Pennsylvania X Ohio and Pennsylvania XX Ohio and Pennsylvania XX and above	16 a	,
1	Ohio and Pennsylvania XX	16 a	
1	Ohio and Pennsylvania XX and above	16 a	1
1	Michigan A	1402	
1	Michigan, No. 1	18 a	1
١	Combing, No. 1	19 a	6
١	Combing, No. 2	19 a	
١	Kentucky and Ind. 4-blood combing	17 a]
1	Kentucky and Ind. g-blood combing	17 a]
1	Missouri 1-blood combing	10 8	ļ
1	Missouri !-blood combing	16 a	J
1	Delain, Ohio fine	17 a	1
1			
1	Montana fine	8 a	
	Wyoming fine	7 8	
	Wyoming medium	8 a	
	Kansas and Nebraska fine		
	Kansas and Nebraska medium	8 a	
	Georgia	16 9	
	Texas spring medium, 12 mos	10 0	
	Texas spring fine, 12 mos	10 a	
	Texas spring fine, 6 to 8 mos	9 0	1
	Texas spring medinm 6 to 8 mos	9 a	1
	Texas fall.	7 1	1
	Texas fall. Kentucky ½-blood clothing	15 a	ĺ
	Kentucky 1-blood clothing	15 a	
	Unwashed fine Ohio and Michigan	10 a	
	Unmerchantable Ohio	12 a	ĺ
	Unmerchantable Michigan	12 a	ļ
	Lambs super pulled	16 a	ļ
	Super pulled	14 0	l
	Extra pulled		
	Western super	12 0	
	California spring		
	California fali		
	Oregon east		
	Oregon fancy	10 8	
	Oregon medium valley	19 0	
	Montevideo	19 0	9
	Australian, Port Philip	17 8	
	Adelaide	17 8	
	New Zealand clothing	18	9
	" cross-bred fine	19 1	1
	Cape		
	Carpet wools, Aleppo	9 1	į
	" Bagdad	. 14 :	a
	Cbina	. 10	ı
	Cordoya	. 11 :	Ø
	Donskoi	. 11 :	ú
	Donskoi combing	. 15 8	ū
	East India	. 10 :	Ø
	" Georgian	. 9 :	n
	Khorassan	. 10 1	8
	* Valparaiso	. 10 1	Ø
	Chicago Board of Trade		

Chicago Board of Trade.

wheat, which barely could I sold for 79\footnotes at noon on Saturday, brought readily from 80\footnotes up to 81\footnotes at the opening. The most generally current price at the start was 80\footnotes. From that point it rose in a few minutes to 81\footnotes. The charge to the footnotes the footnotes of the charge of the charge of the charge of the stable to 50\footnotes. ceased coming after that and the price declined to 791. The changing aspect of the visible supply had much to do with the feverish changes in the price of wheat. When New York stocks were given at 195,000 bushels more than they amounted to a week ago, the price had its tumble to 794, and when a total decrease at all points of about 2,000,000 bushels seemed likely, the price took an upward shoot to 894, climbing to that from 794 in about 10 minutes. The Liverpool market was quot d from 14 to 2d per cental higher for figures, with a heavy speculative demand reported by the private cables. The great feature of the news, however, was that which had reference to the domestic crop situation and the visible supply. ever, was that which had reference to the domestic crop situation and the visiole supply. The feeling began to spread that the buying enthusiasm was about over and was corroborated by the fact that country orders to-day were principally for fives and tens instead of fifty and hundred thousand lots, as for some time back. The foreign shipments for the week were heavy and that, together with rumors of Oregon wheat on the way to Kansas City and St. Louis, added to the bearish feeling which prevailed all afternoon. The price in the last half hour kept dropping to near 78 and rushing up again to about 79 every few minutes The lowest it touched was 78; and it closed at 78;. Corn suffered from the inspection into store of 1.234 carlonds since Saturday and estimated receipts for to-morrow of 1,120 cars. The reported freezing from Joliet, in this State, on account of ice having formed there, was not believed to have occurred over a wide enough territory to materially hinder the advance toward maturity of the immense planted area. The cash demand was slack and only clevator people seemed to want the offerings. Argentine shipped 152 600 bushels last week. New York reported four loads sold there for export to-day. The visible increased 1,411,600 busheis for the week compared with a decrease of 620,600 bushels in the corresponding week last year. The opening price of July was from 53‡ to 53‡ and the highest prices of the day were made at that time. The lowest point made near the end of the session was 52‡ and it closed at 52½ bid. Oats were active, with a heavy business transacted. Prices at the close were from ‡ to ‡ under Saturday's last quotations. The provision market opened wak and lower, on account of the day's run of hogs, numbering 44,600 head. Those heavy receipts appeared to have been calculated by the bears to make a heavy market, heavy enough to permit them to cover their shorts without causing the price to receiver while they did so. In that they were mistaken, while it took very little buying on the decline by estic crop situation and the visible supply he feeling began to spread that the buyin

Open. High. Low. Close. WHEAT, NO 2-CORN, NO 2-521 531 551 September..... OATS, NO. 2-291 291 301 301 MESS PORK, PER BBL-LARD, PER 100 LBS-July..... 6.621 6.674 6.621 6.65 September..... 6.771 6.874 6.774 6.824

Produce.

New York, May 27—Flour-Very quiet, prices firm: Winter wheat, low grades, 2.70a3.50; do fair fancy, 3.75a4.25; do patents, 4.25a4.75; Minnesota clear, 3.25a3.60; do straights, 3.80a4.15; do patents, 4.15a5.20; low extras, 2.70a3.50; city mills, 4.40; do patents, 5.15; rye mixture, 3.70a3.50; olds mills, 4.90; do patents, 5.15; rye mixture, 3.00a3.55; superfine, 2.35a2.00 nominal. Southern flour, quiet, steady; common to fair extra 2.65a3.40; good to choice do 3.50a4.25.

Commeat—Quiet, firm; yellow Western, 2.90a
3.00; brandy wine, 3.10.

Barley Mail—Nominal; Canada country made, 5xa00; Western, 0.5a75; two-rowed State, 70a7-1; six-rowed do 75a80.

Hay—Better supply, easy; shipping, 55a00; good to choice, 70a75.

Hops—Quiet, steady; State, common to choice,

19; Pacific coast, 3a9; London market un-3a9; Pacific coast, 3a9; London market unchanged.

Rutter-Firmer, fairly active; State dairy, 13a38; do creamery, 199; Western dairy, 74a14; de groumery, new, 14a19; do factory, 7a11; Elgins, 194; imitation creamery, 10a15.

Cheese—Strong, fair demand; State large, 5a6;; do fancy white, 64a6; do colored, 64a6; do small, 5a1; part skims, 14a4; till skims, 1a12.

Eggs—Large receipts, weak; State and Pennsylvania, 13a134; western fresh, 114a124; do per case, 2.75a3.00; Southern, 11a11;

New York, May 27.—The market ruled very quiet and steady in the afternoon, with small and unimportant fluctuations. From the character of the trading the market had the appearance of having been overbought. Many close observers also thought they saw signs of some quiet liquidation by some of the leading bulls, and as there was an absence of further outside buying and no further speculative demand was forthcoming from Wall Street, the market had a toppy appearance.

The movement of the crop continues on a moderate scale, and the Southern spot markets rule quiet and steady at about Saturday's prices.

The range follows:	of prices for the			day was as		
101101111	Op	mh H	igh.	Low.	Close:	Closer
June		7.10	7.10	7.07	7.07	7.12
July	. 100	7.14	7.17	7.12	7.13	7.15
August		7.21	7.23	7.18	7.18	7.25
September		7.24	7.26	7.21	7.23	7.29
October		7.29	7.30	7.25	7.25	7.32
November		7.30	7.33	7.29	7.29	7.34
December		7.34	7.36	7.34	7.35	7.39

Total sales, 150,300 bales.

Last prices are last official sales. The market closed steady.

WIND AND WATER.

Using the Prairie Zephyrs for Purposes of Irrigation.

The State of Kansas has appropriated \$30,000 for experiments in irrigation. Everywhere in western Kansas may be seen windmills of primitive form, horizontal, vertical, or vertical geared. Holland has 12,000 windmills, which average eight-horse power, used to drain the polders. The States of the plains will soon, apparently, have more than that number used to irrigate the prairies. Steam pumps, gas engines, hydraulic rams and pumps driven by animal power, and all of the known devices for elevating water are now finding experimental tests in Kansas. It is probable that valuable data in regard to comparative cost and efficiency of these different motors will be obtain-

ed from these experimental tests. The work of elevating water for irrigation is very old. Singularly, arid countries in ancient and in modern times have sustained dense populations. It might naturally be supposed that methods for elevating water having been used so long would now be little susceptible of improvement. It is, however, quite possible that an improvement is possible in this age which would not have been possible in other ages, or likely in other countries than the States of the plains.

A crude invention which is called "the Jumbo" wind engine appeared in western Kansas about 10 years ago, and is now coming into extensive use; its ease of construction, economy in cost, capacity, in power and simplicity, seem to recommend it to those who observe its work. It resembles the paddle wheel of a stern-wheel boat, with a shaft 12 or 14 feet long, with a diameter of 12 or 16 feet, with six or eight radial arms; the lower half of this horizontal wheel is shielded from the wind, so that the air acts only upon the upper vanes. A crank upon one end of the shaft connects with a pump. Its power can be indefinitely increased at any time by increasing its length, which can be done by any one who is CHICAGO, May 27.—Wheat was feverish, with sudden and wide fluctuations, covering a range of from 2½ above to 1½ below the closing figures of Saturday, and closing ½ lower. Corn was weak throughout and closed 1½ lower. Pork was builed by country buying at the start, but cased off and closed with 2 gain. July wheat, which can be done by any one who is handy with tools. It is said that a "Jumbo" giving a 100 horse-power in a 15-mile wind can be put up at a cost 1½ lower. Pork was builed by country buying at the start, but cased off and closed with 2 gain. July wheat, which can be done by any one who is handy with tools. It is said that a "Jumbo" giving a 100 horse-power in a 15-mile wind can be put up at a cost 1½ lower put up at a cost 2 gain. The wind acts upon this sort compass except two. It seems to require no "governor," but simply pumps more during a storm. No tower is required, and it is placed so that the radial arms will be clear of the ground In fact, in Kansas, where there are few trees and hills, it is claimed that the wind currents have greater force at the surface than high in air.

Sugar from Indian Corn.

Mr. E. L. Steward, of Murryville, Pa., has been experimenting for some years in the manufacture of sugar from the stalk of the Indian corn, and claims to have discovered that by pulling off the ears when the corn is in the "roasting-ear" stage, stripping off the fodder and then letting the stalk stand from 30 to 60 days, the storage of sugar is given a great impetus, while the starch formed in the young stems almost entirely disappears. The percentage of cane sugar found in the stalk during the silking" period is but 2.90, and in the early roasting-ear stage is 5.90. If the ears be removed he finds that in one week the percentage of sugar will increase to 9.52; in 30 days to 12.18, and in 60 days to 14.14.

He thinks that eventually sugar will be made from Indian corn much more cheaply than from either the cane or the beet. As the corn plant can be grown over such a wide area this will greatly extend the manufacture of sugar. An important element to be taken into consideration is the value of the fodder and the immature corn for ensilage. He estimates this as twothirds the value of the green crop.

A Good Wagon Grease.

The too common trouble with axle grease is that it contains acid, and thus rusts the metal. A serviceable and cheap axle lubricator is made of common tallow, melted and softened somewhat by the addition of sperm oil, and having black lead stirred into it. The tallow is only to hold the black lead in its place. A good quality of tale, mixed with sufficient sweet-oil to make a thick paste, is also excellent for wagons. For buggies and carriages there is nothing better than pure castor-oil.

In three separates trials the churning

of the churnings a fourth portion was salted in the churn by the use of a

strong brine. The separate lots of

butter were all worked as nearly alike

as possible, and samples were taken for

the determination of water, fat, and salt.

The butter salted with one-half ounce

of salt contained 11.7 per cent. of

water; that salted with one ounce aver-

aged 9.84 per cent; with one and a half ounces, 9.68 per cent.; salted with

brine, 12.09 per cent.; and unsalted, 13.31 per cent. "The amount of salt retained in the butter varied in these

trials from 1.35 to 6.02 per cent. and

seems to be dependent upon the amount of salt added." When the butter was salted with brine "practically none of the salt was retained. Salting by this

method seems to be labor and salt

thrown aways."





Newcomer-Say, I don't like to show my ignorance, but am not above taking a little advice. Is it best to plant your eggs in a hill or sow them in a row? Farmer-What in thunder do you expect to raise?

Newcomer-Spring chickens .- Judge.

Almost as Good.

A maiden lady in Kansas keeps a parrot which swears and a monkey which chews tobacco. She says between the two she doesn't miss a husband very

A Good Place to Learn.



"Can you swim, little boy?" " Yes, sir."

"Where did you learn?" "In the water, sir." - Texas Siftings.

Suited to the Occasion. Jeweler-These paste diamonds look

just as beautiful as the real ones, but they only last a short time. Young Man-Well, this engagement

is only going to last a short time.—
Harlem Life.

A Political Turn. Mayor's Secretary-You can't see the

Mayor now; he's in his private office. Seedy Politician-What right's he got to a private office? It wuz a public office we elected him to, wuzn't it? You At least it sounded so to me; and what I'd like tell him ter come right out quick, or I'm agin' him .- Roxbury Gazette.

What a Baby Can Do.

Friend-I don't understand why you and your husband should have separat-Mrs. Aftermath-It was all owing to

the baby's temper. Friend-Mercy on us! How could

that be?

Mrs. Aftermath-We couldn't agree as to which one of us the baby took after .- New York Weekly.

The Power of the Eye.

It is told of Van Amburgh, the great lion-tamer, that on one occasion he was asked how he gained his wonderful power over animals. He said :

"It is by showing them that I am not in the least afraid of them, and by keeping my eye steadily on theirs. I'll give you an example of the power of my

Pointing to a loutish fellow that was sitting near by he said :

"You see that fellow? He's a regular clown. I'll make him come across the room to me, and I won't say a word to him." Sitting down, he fixed his keen, steady eye on the man. Presently the fellow straightened himself up, rose from his seat and came across to the lion-tamer. When he was close enough he drew back his arm and struck Van Amburgh a tremendous blow over the chin, knocking him clean over the chair, with the remark: "You'll stare at me like that again, won't you?"-Tid-Bits.

A Besetting Sin.

A reverend gentleman was once on a time sitting across the street from a chapel of colored people in Jacksonville, Fla., and heard the following unique and original exposition, by the preacher, of the parable of the rich man and Lazarus

"An' now, bredren, an' especially you, sisters, why do ye spose de rich man wanted de water on de tip of he tongue only, and not all ober de hull body? I will tell yer. Mind, now, and 'specially ye sisters-because de sins ob de tongue are so much wuss dan all de oder sins ob de body, dat his tongue burned so much mo' dan de rest ob him, dat he forgot eberting else in its fire. Ah, sisters, tink ob de words that are running off yo tongue continually and look out for de tip of fire in de nex world." The good pastor who overheard states that the comment was good; forgive, she said with a good many tears, while to take this trouble, for when it is but the special application to "de sisters" was thrilling.

Georgia Style.

"My friend, how long have you lived in this neighborhood?"

"Sence the big hick'ry was a saplin'." "What is your age?

"Well, I wuz born when Old Jim Dobbs's mill wuz built." "You don't answer me clearly.

Have you no method of computing

"Oh, yes! When you see the shadders o' them trees straight in the road, it's 12 o'clock, or it ain't far off!" Atlanta Constitution.

THE CHILDREN'S SCRAPBOOK

DEAR CHILDREN: Here is a letter expressly to you. Do you keep a scrapbook? If not, you must get some thick manilla paper, fold it so you will have large, square pages, fasten them with a darning needle and shoe thread, and stitch or paste on a cover of brown backing, which most book stores keep, or any kind of strong pasteboard you can find. If you cannot do all this yourself, get a big brother or sister to do it for you. Write on the outside of the cover as plainly and as neatly as possible:

SCRAP BOOK.

THE PROPERTY OF TOMMY TRADDLES,

or Nellie Gray, or whatever your name is. You will find hereafter little poems, recitations and sketches which are intended to go in your book. Of course you can take clippings from other papers too, but always remember this: Never use up valuable space by pasting in anything that is not worth keeping, and that you do not like very much. At the end of the year you will have a story book the like of which could not be bought in the best book store in the world. Have a particular place to keep your book, so it will not get torn or soiled when you are not using it, and when it is begun write a letter and tell the editor all about it. Your true friend -EDITOR SCRAP BOOK.

A Puzzled Professor.

I understand most languages that human French, German, Spanish, English, with Latin,

Dutch and Greek: But I have a very little boy that's wiser far

For he's puzzled me completely by a very strange reply.

A circus came to town one day, and Tommy

longed to go, He asked me for permission, and I simply answer no.

His chin turned up, his mouth turned down, he stamped and clinched his hand,
And uttered this queer sentence that I couldn't

understand:
"I don't-ah, ooh-boo, ah! Papa! You might, ing a pound of butter a day. understand:

you never-boo! Ur, hur! er-let me go, ah yah! to any-Oh!

to know,
Is whether some obliging boy his eleverness will show,

By sending me in English what Tommy meant to say That time that he addressed me in that very

foreign way.

A CAT SHOW.

Something the Children Enjoyed in New York.

There was a great show in the big city of New York about a month ago. by overfeeding. One cow pays for her food in the milk pail; another one turns It was a cat show held at the Madison Square Garden. Almost everybody who her foods into fat. One cow will eat. owned a pretty or an ugly cat sent it digest and assimilate a certain amount down to be put in a cage and looked at by crowds of children and grown-up people who came to the show. The cat that most everybody liked best is named



ULTRA FASHIONABLES

Grover Cleveland, and they gave him the prize of a blue ribbon. He is brown, with wide, black stripes, and took his naps on a white satin cushion. Other cats were named Tammany, Chappie, and Whiskers. The cage that the children liked best was where a beautiful puss named Mittens stayed with six canaries and a parrot without trying to jump for them at all. The picture shows three of the prettiest kittens,

A Little Queen.

Here is a pretty story about Wilhelmiena, and next month we will have a pretty picture of her. She is not a little queen out of a fairy tale, but a real, live girl, and Queen of the country of Holland.

One day her mother had to scold her. and left her alone to think over her naughtiness. After awhile she knocked at her sweet mother's door.

"Who is there?" was asked. "Her Majesty, the Queen of Holland, wishes to enter," said the haughty, naughty

"She cannot come in," was the an

" Mamma, it is your penitent, wicked Wilhelmiena who wants to ask you to and her mother, just like any mother, said : " Open the door, dear."

Salting Butter at the Pennsylvania THE DAIRY.

Skimmings. Oleomargarine in New Hampshire is colored pink.

Iowa has a net increase of 17 creameries during the past year.

Vermont has made great progress in the matter of butter making and has found it profitable.

A good cow is always an economical feeder, but she has no power to manufacture something out of nothing. A poor cow, however, can make nothing out of something without any great effort.

Mr. Dawley, of Unionville, N. Y. says: When we sell a ton of butter, we remove from the soil but 48 cents' worth of fertility, mostly nitrogen. A ton of milk sold removes \$280. This would be about \$28 of fertility removed in the milk required to produce a ton of

One must use judgment in feeding cotton-seed meal. It is a concentrated food, and if too much of it is fed the cows are liable to become diseased. Use it judiciously and in connection with some other foods. It is highly nitrogenous, and should be fed with corn meal, timothy hay, or other like

New York State has heretofore and is now a large producer of both butter and cheese, but is seriously feeling the competition of the West. The State is fast filling up with manufacturing industries, and farm lands are advancing, and to-day are higher in value than in New England. There is do doubt but what she will decrease her make of both butter and cheese as time wears on.

Ensilage Not a Complete Food. Ensilage alone is not an economical food, as it is deficient in the starchy matter, and has so much water in it that a cow must eat 100 pounds of it to get enough nutriment to live upon. For in 100 pounds of it there are only 22 pounds of dry matter, of which one-

fourth is not digestible. The digestible matter has about two pounds of protein, or matters that go to make flesh; six pounds of carbonaceous matters, that go to support the animal heat, and not quite half a pound of fat, while an animal of 1,000 pounds must have fully two and a half pounds of the first, 121 pounds of the second, and nearly half a bound of fat. Thus the ensilage is deficient in the heat-forming substances, and it will need some addition of starchy matter, such as middlings, to complete it. But 100 pounds of food of any one kind, except it be of the best pasture grasses, is too much, and especially of for the sole nutrition of an animal.

will make a full ration for any cow giv-

Grain for Cows.

Prof. Robinson, of Ontario, is reported

as saying that no cow should be fed

more than eight pounds of grain a day.

If the digestive organs of the cow are

strained, she is injured permanently. I

have visited several stables in Orange

County recently, and in every one I

detected a smell that showed plainly to

me that the cows were being fed too much

grain. It had passed undigested and

had fermented. One should watch the

droppings to see if the grain is all being

digested. Very many dollars are lost

of grain; another will not, while another

will eat and pay for more. Individu-

ality of the animal must be studied by

the feeder in order to rationally feed a

herd of dairy cows. All these condi-

tions must be considered when answer-

ing the question, just as the price of

milk is considered. The manurial value

of a food must also be considered in

calculating the worth of a food for the

I believe every farmer should feed his

cows some grain during the Summer.

Not only will he gain the advantage of

the cows coming themselves to the stable

at milking time without the use of a

dog, but they will be in much better

A Young Calf That Will Not Drink.

Calves appear stupid and willful some-

times, but in the majority of cases it is

the person who is trying to feed them

that should be blamed for the same fail-

ing. The young things are led by in-

stinct to suck the cow and to hold up the

the reverse calls for patience and kind-

ness. Doubtless some are more stubborn

than others, but the right way will be

successful with the worst of them in a

short time. If the calf does not under-

stand its business at first, the milk should

be poured into its mouth by the scooped

hand until it finds it is getting its food,

the two forefingers, spread a little apart,

avoided in the future.

dairy cow.

condition for Fall.

ensilage, which is by no means desirable Thus it is better to give one-half this quantity, or 50 pounds, or even 40 of it, and make up the rest of dry fodder, as clover hay, with sufficient grain food to make the even ration. With 40 pounds of ensilage and 10 of hay, adding four pounds of cornmeal and the same of bran, or the equivalent of any of the

oil-meals or the gluten meals for these,

Care of the Cow.

The milking of a cow depends on the good management of the animal at the his readers. They are very useful in time of calving. As this approaches, the feed is to be reduced, so far as the grain ration is concerned. A due allowance of bran may still be given, as this is helpful rather than otherwise, but all stimulating foods, as cottonseed meal and others rich in proteine, should be suspended for the time and for two weeks after the birth of the calf. Some dairy experts recommend a dose of cooling laxative medicine, as a pound of epsom salts, which is doubtless useful if the condition of the cow needs any such reducing. It is better, however, to give these laxative agents in the form of food, thus exerting their influence healthfully without disturbing the ordinary action of the system. Thus, bran mashes with some linseed meal added will keep the system cool and open and aid considerably in the safe delivery of the cow.

The very common disease of the udder is due to inflammation, the result of various causes, as by over-feeding with to cold, or by irregular milkings, by thus the inflammation is produced. The stringy matter when the teats are milked. part of the udder with a small syringe: head for this purpose, and to teach them kneaded until it becomes soft, when it is hand and some camphorated soap linigruel with benefit.

MONEY FOR EVERYONE!

then by gently pressing its head down to the milk in the pail, raised for the MONEY FOR EVERTONE!

I can't understand why people complain o hard times, when any woman or man can make from \$5 to \$10 a day easily. All have heard of the wonderful success of the Climaz Dish Washer; yet we are apt to think we can't make money, seeling it; but anyon can make money, and \$478.36 in the last three months, after paving all expenses, and at tended to my regular business besides. You don't have to canvass; as soon as people know you have it for sale they sond for a Lish Washer. Address the Climax Mig. Co. Columbus, Ohio, for particulars. Go to worl at once, and you will very soon have a full gooket book and a flight heart. I think it doty to inform each other of such opport them while we may. Try it at once, an publish your experience so others may be benefited.

THE ORCHARD.

was separated into three equal portions, one portion being salted at the rate of Orchards are being planted less with one ounce per pound, another at the rate of one and a half ounces per pound, and the third not malted. In one case crops of grain as the years go by, it being evident that the soil needs enriching rather than to be reduced in fertility. only one-half ounce of salt was used instead of one and a half ounces. In two

> Ohio, and said to be far better than Talman Sweet. Mr. L. B. Pierce states that in his vicinity it is called Richard Sweet, and it is good, too.

results without pruning, grape vines must be pruned every Spring. You are more likely not to cut away enough than to cut away too much of the grape vine. Be sure to leave three buds on each new shoot, for it is the new wood that furnishes grapes.

A paper read before the Nebraska Horticultural Society says that for horticultural purposes only 11 of the 35 or

Setting Trees.

Steer Feeding at the Utah Station.

Three lots of four steers each were fed straw, alfalfa, or clover, and three pounds V. rotundifolia. grain per head for one month; and lot 9 had hay and three pounds grain (bran, wheat and barley) per head daily. In the finishing period, April 11 to May 16, all received alike three pounds of grain (bran and wheat) per head, 10 pounds oots, three pounds straw, hay ad libitum.

The steers were kept in yards with pen sheds. The gains in weight, food aten, and financial results are tabulated. From Nov. 29 to April 11, lot 7 (mixed hay) gained 574 pounds in all; lot 8, 270 pounds, and lot 9 (hay and grain), 252 pounds. During the final period lot 7 gained 39 pounds; lot 8, 11 pounds, and lot 9, 91 pounds. For the whole trial the average cost of food per pound of gain was 7.2 cents for lot 7, power of germination and the acid used 10.71 cents for lot 8, and 8.51 cents for can do no harm, as it does not penetrate lot 9. With steers at two and a half the skin, and the amount is less than that cents per pound there was a loss with all the steers, which was least with lot 9.

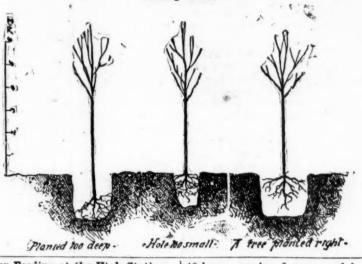
Treatment for Garget.

in cows, generally known as caked bag, too rich and stimulating food, exposure which the udder is gorged at times, and symptoms are a stoppage of the milk, a hardness of one or more of the quarters of the udder, and the discharge of a thick, The disease causes the milk in the udder to become clotted, so that it cannot be drawn off. To remedy this, some solution of common bicarbonate of soda (baking nowder) is injected into the diseased this dissolves the clotted milk, which is then milked out, when the udder is then fomented with hot water and gently wiped dry and well rubbed with the open ment or preparation of arnica. The food should be cooling and laxative, such as linseed and bran mashes, and a pound of epsom salts may be given in oatmeal

purpose as high as may be, and putting into its mouth, the calf will soon begin to drink. If it does not, the best way is not to try to force it, or beat it, but to leave it until it is hungry, when it will very quickly find a way to get the milk. Many times a calf a day or less old will drink at the first attempt, when its head is gently pressed down to the milk, fresh and warm from the cow. It is worth once over, a lot of unpleasant work is

If your orchard trees have grown to such a size as to make it difficult to cultivate or as to shade the ground too much, do not hesitate to cut down every The Beeman Sweet is a local apple of

While many fruit trees will give fair



40 known species of grape need be considered. These are Vitis labrusca, V.

alike on mixed hay from Nov. 29 to Candicans, V. astivalis, V. cinerea, V. Dec. 20. From then until April 11 lot 7 had mixed hay alone; lot 8, hay with palmata, V. cordifolia, V. vinifera, and The amount of water evaporated by a good-sized apple tree, having 25,000 feet of evaporating surface, is estimated

by Prof. Burrill, of the University of

Illinois, to be about 31,200 ounces (about 250 gallons) per day. All this amount must be absorbed from the soil by the roots. It shows the magnitude of the water reservoir which we have in To prevent potato eyes from shooting, one of the chief obstacles in preserving the vegetable, M. Schraiban, of the French Institut Agronome, treats them with a two per cent. solution of sulphuric acid. The potatoes are kept in this for 12 hours and then dried; this kills the

contained in seltzer water. The editor of Gardening has had excellent results with dwarf pear trees, and recommends them without hesitation to small gardens and to plant in borders in large ones. Pear trees, both dwarf and standard, love good ground, if a little inclined to clay so much the better, though any fair garden soil will suit them. But they must not be crowded, even if dwarfs; nine or 10 feet apart is close

If you find galls on the canes of raspberries and blackberries, cut the infected canes and burn them without delay. Prof. S. B. Green says: "The galls frequently extend clear around, make the canes double their usual size, and cause a lingering death before the fruit ripens. The next Spring a grub is found in the swelling, which later develops into the water-beetle, that lays its eggs in the early Summer on the canes. These eggs hatch, and the young larvæ working into the cane check the flow of sap, thus causing the galls. The canes should be destroyed before the larvæ leaves the canes in Spring."

Concerning roots of orchard trees, it is advisable, in the North, to cut away only those roots which are broken or badly torn. These should be cut off just back of the injury. It is the custom to cut off the ends of all roots of the size of a lead pencil or larger, for a clean, smooth wound is supposed to heal quicker than a ragged one. These cuts are made from within outwards, so that the wound is more or less slanting across the roots and so that it rests firmly upon the ground when the tree is set. When the tree is planted, all the roots should be straightened out to nearly or quite their normal position. If it is found that one or two roots run off to an inordinate length, they may be cut back to corre spond with the main root system.

Cherries for Profit.

Never set a cherry orchard in low, wet land, as the trees will not thrive. Let all birds except the blue jay and English sparrow remain in the orchard: the others will eat a few cherries, but they will do quite as much good as harm.

The orchard should be cultivated until the middle of August, then let alone until just before freezing. To produce a good crop of cherries a good wood growth is necessary. Good cultivation is next to plenty of rain.

A Philadelphia company is making paving blocks of compressed hay.

Hiram S. Maxim, the inventor, say that New Englanders are the best mechanics in the world, and that the French are the best mechanics in Europe.

Icebergs in the Atlantic sometimes last for 200 years.

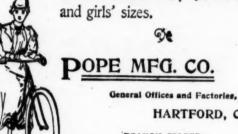
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Herbaceous Grafting.

An Illinois experimenter, E. L. Rautenberg, recently told to the Illinois Horticultural Society a way of grafting seedlings into old vines, which he has practiced successfully for years, and by which he secures fruit the third year after seed. This method is here illus-

trated. It is one of herbaceous grafting. The grafting is done after the buds have developed four or five leaves, and when the sap is flowing. choose, the place where the graft is to be inserted, and tightly wraps a twine several times around the vine. This will in a measure, prevent the flow of sap. Below the string a

sloping cut is made downward, and above it one sloping upward. The cuts are about one inch in length. The cion should have a natural bend. This is cut wedge-shaped at each end, and so that the cion is a little longer than the distance between the two cuts. In inserting the cion, the bark of the original vine and the cion must be brought into direct contact, and the cion held in place by a string bound around both cion and vine sufficiently tight to force the cion's ends into place. If this be well done, no tie will be required at the ends, but the joints should be covered with grafting wax. Soon the bud will begin to grow. All the growing shoots not belonging to the cion are gradually removed, and in the course of the Summer all the wood above the graft may be taken off. In the Fall, all the stock above the lower cut, and the part of the cion above the bud are to be removed.

June Work-Field and Orchard. [Washington Horticultural Bulletin.] Continue shallow cultivation in the

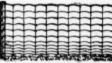
orchard and field, when the soil is not too wet, not only for the purpose of keeping down weeds, but when the surface crust is broken by the harrow, the soil will retain moisture for the growing crops. Continue spraying for codlin moth and for the scab. The burlap placed around the trees for trapping the moth should be examined every eight or 10 days. As the weather grows warmer it takes less time to hatch out the moths, and unless watched every week some of them will escape. Hop growers should begin spraying as soon as any lice make their appearance. If the green aphis appears, they should be destroyed with he tobacco and soap, or quassia and soap, or with the kerosene emulsion. Watch for the nests of the caterpillar

and destroy them at once. strong paper around the tree at its base will keep ou If they are already in the them out with a flexible wire

Providence,

Continue thinning out any needed, especially among apples, pears, etc.; by so fruit is produced, with supe and the weight at least equal. fruits are much benefited l mulching of some sort. A material for strawberries is grass from the lawn, which around them. Irrigate the ing fruiting season.

FORMULA FOR PEACH Copper carbonate, five monia (26°), 3 pints; water Recommended by Newton I The solution is prepared s standard formula.



FOUR OF A KI

A certain railway official wrote harge of fencing on four gre where "the Page" is in use, "the Page" had been longest in ers took such precautions, those "cheap" wire fences would go or PAGE WOVEN WIRE FENCE CO.





COMFORTABLE WITHIN YOUR AS A WORKER FOR T Cosmopolitan Mag THE COSMOPOLITAN IS just not making a special effort, and is off opportunities to those who desi its representatives. Fully the \$3.00 or \$4.00 magazines, it is a year; gives 160 pages each yet 200 illustrations. Its contribute most famous writers and mitsts of the world. It is not su that it was the most widely circine in America in 1894. It has to be appreciated. In addition commission to agents, an extraor is being offered for the next six me who will make desirable represe a view to increasing circulation.

NEW APPLES. PEARS. NUT TREES & NOVELTI



GEORGE E. LE

and patentability of inventions and validity All business relating to patents